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APRIL 17, 1954

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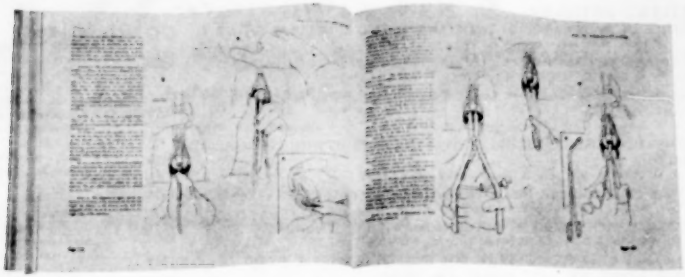

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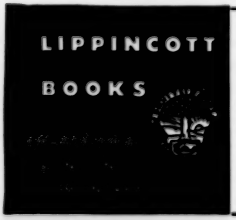

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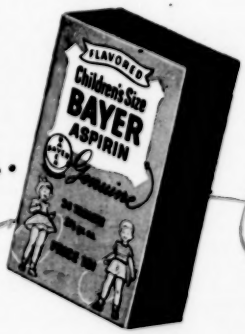

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WASHINGTON NEWS

VOCATIONAL REHABILITATION

A number of national, state, and local rehabilitation groups have given their endorsement to the administration's bill expanding the federal-state program of vocational rehabilitation. Virtually all witnesses appearing before the Senate labor and public welfare subcommittee on health to date have stressed the importance of increasing federal funds for rehabilitation. The major bill under study provides for a new system of federal grants (1) to support projects already under way, (2) to extend and improve existing programs, and (3) to start special projects of a pilot nature. The bill envisions an increase in the number of persons rehabilitated each year, while at the same time increasing the states' participation.

The spokesman for the National Rehabilitation Association, Executive Director E. B. Whitten, testified that, instead of using a grant formula based on population and per capita income, certain specified sums might be allocated for each year. Thus, he added, rehabilitation would be financed the same as public assistance, "and no longer could it be said that the federal government is more liberal with funds for assistance to the handicapped than it is for rehabilitation of the handicapped."

Mr. Whitten stressed that even before it approved the administration bill the committee should report out another measure that would prevent the placing in effect next July 1 of an edict of Congress that for every federal dollar spent in rehabilitation the states must spend 75 cents. The witness commented: "It would be ironic indeed if, at the time this committee is considering an expansion of vocational rehabilitation services, appropriation law language should be undermining the present program, already inadequate to meet the needs of the handicapped."

"DOCTOR-DRAFT" ACT

Awaiting House action is an amendment to the "Doctor-Draft" act that would authorize the three armed services to retain, in noncommissioned status but assigned to professional duties, any physician, dentist, or veterinarian whose loyalty is questioned. The amendment was drafted after a federal court decision that the military services must commission or discharge any man called up under the "Doctor-Draft" act, regardless of any loyalty question. The bill passed the Senate after unanimous approval by the Armed Services Committee. At a hearing, Assistant Defense Secretary Hannah outlined for the committee how the Defense Department proposed to operate under the new provision, assuming it is enacted into law.

Mr. Hannah said that, should the amendment be adopted, the military services immediately would put in effect the following procedure: 1. If questions of loyalty interfere with commissioning of a man brought into active duty under the "Doctor-Draft" act, an "intensive investigation" will be conducted, the investigation to be completed within 90 days except in unusual cases. 2. If the man is found to be a security risk, he will be "expeditiously processed out of service with an appropriate discharge," which will state that he was released "because his retention was not consistent with the security of the United States." 3. If the investigation clears the man, he will be offered a commission at the appropriate rank. 4. During the investigation, the persons concerned will be "retained in an enlisted status and used in their professional capacity under necessary safeguards."

The Selective Service System, meanwhile, is preparing for an anticipated call-up of physicians under the act, which has not been used for this purpose since last August. Selective Service headquarters has ordered draft boards to resume processing for physical examination and induction of priority 1 and 2 physicians of all ages, priority 3 physicians born after Aug. 30, 1922, and dentists of all ages in the first three priorities. Selective Service anticipates calls from the armed services for physicians in the next few months. The drafting or mandatory call-up of physicians was halted last summer, after a large reservoir of medical manpower had been built up as a result of the end of Korean fighting and the availability of young, nonveteran physicians who had completed their internships. The last calls for physicians was in August, when the Defense Department asked for 542.

SOCIAL SECURITY FOR PHYSICIANS

Reasons why the American Medical Association "strongly opposes" compulsory coverage of physicians under social security were presented to the House Ways and Means Committee by Dr. F. J. L. Blasingame, a member of the Board of Trustees. The committee is considering an administration bill to extend Old Age and Survivors Insurance to about 10,500,000 more persons. "We consider it absolutely incompatible with the free enterprise system," Dr. Blasingame said, "for a group to be compulsorily covered under a governmental system of old age benefits when that group strongly and with great force opposes such coverage."

Dr. Blasingame then pointed out that few physicians considered 65 as the retirement age; a survey shows that, of those who practice past that age, more than half do not retire until they are 74 or older. Under Social Security, the typical physician would have to pay OASI taxes for 9 or 10 years after he was 65 before he could receive benefits.

Explaining to the committee that "We do not come here empty handed," Dr. Blasingame urged that, instead of forcing coverage on physicians, the committee recommend passage of the Jenkins-Keogh bills, which have been before it since last year. This legislation would permit physicians and other self-employed to defer payment of federal income tax on a portion of their income paid into restricted annuity funds. Dr. Blasingame noted that this legislation also has the support of the American Bar

From the Washington Office of the American Medical Association.

Association, the American Dental Association, the American Institute of Accountants, and the American Farm Bureau Federation.

He also recommended that the committee delete the section to provide "waiver" of OASI premium for the disabled and substitute "the more liberal formula of most modern systems for computing benefits, such as those followed by most corporate pension plans and indeed by the government itself in the Civil Service Retirement system." Under the provision in the bill, the years when a worker is judged to have been disabled would be disregarded in averaging his earnings for pension purposes. Under the plan suggested by Dr. Blasingame, the best 5 or 10 working years would be used, thus eliminating the question of medical examinations to determine disability.

The A. M. A. testimony was restricted to the two sections, on the mandatory coverage of physicians and on waiver of premium. Dr. Blasingame emphasized that the Association has not taken a position on other sections of the bill "which do not have primary medical implications." In reply to questions by the committee, Dr. Blasingame described the democratic procedure by which the Association took its stand in opposition to compulsory coverage of physicians in 1949, a stand reaffirmed by the House of Delegates last December.

HEALTH REINSURANCE PLAN

The American Medical Association "seriously doubts" that the mechanism suggested in the administration's health reinsurance plan "will, in fact, accomplish the desired results." Therefore, the Association is opposed to the legislation. The Association's position was arrived at during a special meeting of the Committee on Legislation and the Executive Committee of the Board of Trustees. It was made public when Dr. David B. Allman, chairman of the Committee on Legislation, testified before the House Committee on Interstate and Foreign Commerce.

Dr. Allman declared: 1. The A. M. A. is in "complete accord" with the principal purpose of the bill, which is to promote the best possible medical care on reasonable terms. Dr. Allman added: "It is reassuring to the medical profession to find that the official position of the government is one of trust and confidence in the ability of private initiative to solve existing problems in the field of medical care." 2. Voluntary health insurance has made "tremendous strides" to meet public demands, including the development and promotion of "major medical expense" coverage. "The demonstrated ability of the industry to meet the needs and demands of the public," Dr. Allman said, "indicates to us that it is unnecessary for the federal government to enter the field." 3. It is reasonable to expect that, as new types of coverage develop, the maximum number of "insurables" will be protected. 4. Local and state governments should assume the medical responsibility for indigents who cannot afford to pay for health insurance and "are dependent, in some measure, on outside assistance for the basic necessities of life."

Under committee questions, penetrating but generally friendly, Dr. Allman contributed a number of additional points. He said that restricting the powers of the Secretary of Health, Education, and Welfare, possibly even shifting them to the state or other governmental agencies, would be welcomed by the A. M. A., but that even with this change the bill would not be acceptable "because there is no need for it." Asked if the Association would favor the bill if it could be shown that it would "make insurable today's uninsurable risks," Dr. Allman noted that health insurance "is making progress now without the bill."

He agreed with one committee member that, under certain implementation, the bill might develop into the "opening wedge" for national compulsory health insurance. He said the A. M. A. was "highly conscious" of the problem of the indigent and was doing everything in its power to bring about a solution. He suggested that the problem could be approached on the state and local level by (*a*) better organization of the machinery for financing medical indigent care, (*b*) larger appropriations for the medical care of the indigent, and (*c*) state and local cooperation in establishing in some places new procedure for the medical care of the indigent.

At the conclusion of the hearing, Chairman Wolverton told Dr. Allman that if the committee did not have the "right way" to answer the problem, "we want the help of the A. M. A. or anyone else who can give us the answer." Dr. Allman reiterated that the Association believed reinsurance would not be helpful, but he said the A. M. A. would supply the committee with any information it had that might be of use.

Earlier, a spokesman for the American Federation of Labor sharply criticized the reinsurance bill. Nelson H. Cruikshank said that, while the measure might appeal to Blue Cross, commercial insurance companies "will not move into high risk areas simply in order to meet a social need. . . . We have come to the conclusion that this bill is long on its aspirations and goals but timorous and hesitating in its implications." He said some of the data presented by the Department of Health, Education, and Welfare in support of the reinsurance "constitute one of the most conclusive presentations of the need for national health insurance ever to come to our attention."

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MISCELLANY

Ambassadors of a number of foreign countries, leading churchmen of the United States, and federal officials have contributed short articles to a clip sheet issued by the Department of Health, Education, and Welfare for Child Health Day, designated by the President for May 1. . . . About 500 colleges and universities are cooperating with the National Science Foundation in a survey of grants. The object is to learn the number of fellows, the number of teaching and research assistantships, and the amounts and sources of the grants. . . . The Veterans Administration is preparing a project to measure the lung and heart function of all patients admitted to obtain standards against which to measure and interpret abnormal function of the two organs. . . . Vice Adm. Ross T. McIntire is a candidiate for the Democratic nomination from the 30th California district. In preparation for the campaign he has resigned as chairman of the President's Committee on Employment of the Physically Handicapped. Admiral McIntire has served as Navy Surgeon General and medical director of the National Red Cross and was the late President Roosevelt's personal physician. . . . The U. S. Office of Vocational Rehabilitation has received the American Pharmaceutical Manufacturers' Association research award in recognition of its pioneering work with the handicapped. . . . The Public Health Service Sanitary Engineering Center at Cincinnati, Ohio, named in honor of the late Senator Taft, was dedicated April 8 by Secretary Oveta Culp Hobby.

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	Hotel	Single	Double or Twin
J	Ambassador, 55 Mason	$ 3.50- 4.00	$ 5.00- 7.00
E	Arlington, 480 Ellis	3.50	5.00- 6.00
G	Atlanta, 92 Seventh St.		4.00
L	Barclay, 235 O'Farrel	3.50	4.00- 4.50
N	Biltmore, 733 Taylor	5.00	6.00- 7.00
I	Brayton, 50 Turk	2.50- 3.50	3.50- 5.00
F	Cadillac, 380 Eddy		5.00
D	Carlton, 1075 Sutter	3.50- 4.00	5.00- 6.50
L	Cartwright, 524 Sutter	5.00	6.00- 7.00
H	Ceil, 545 Post	4.00- 6.00	5.00- 8.00
J	Chronicle, 930 Mission	2.75	3.75- 5.00
I	Clark, 217 Eddy	4.00 & up	4.00 & up
L	Crane, 245 Powell	3.50- 4.00	5.00- 7.00
I	Columbia, 411 O'Farrell	5.00	6.00
K	Court, 555 Bush	3.50- 4.00	4.00- 6.00
I	Crest, 210 Ellis		5.50- 7.00
I	Davenport, 540 Jones	3.00- 4.00	3.00- 6.00
L	Devonshire, 335 Stockton	4.00- 5.00	5.00- 8.00
H	El Cortez, 550 Geary	5.00- 7.00	8.00-10.00
B	Embassy, 610 Polk	4.00- 5.00	4.00- 7.00
B	Essex, 684 Ellis		5.00- 7.50
G	Federal, 1067 Market		4.00- 5.00
A	Gartland, 909 Geary	3.50	4.50- 5.00
L	Golden State, 114 Powell	3.50- 4.50	5.00- 7.00
F	Governor, 130 Turk	3.00- 3.50	4.00- 5.00
I	Grand, 57 Taylor	4.00	8.00- 7.00
F	Herald, 300 Eddy	3.00- 4.00	4.00- 5.00
L	Herbert, 161 Powell	3.50- 4.00	4.00- 6.00
I	King George, 334 Mason	3.50- 5.00	4.50- 8.00
F	LaFayette, 240 Hyde	4.00	4.50- 6.00
F	La Salle, 225 Hyde	4.50- 5.00	5.50- 7.00
A	Leland, 1315 Polk	3.50	4.00- 5.00
A	Lombard, 1015 Geary	4.00- 6.00	8.00- 9.00
L	Manx, 225 Powell	5.00- 6.50	6.50- 9.00
B	Mayfair, 626 Polk	3.50	4.00- 5.00
I	New Delt, 34 Turk		4.50- 5.50
I	Olympic, 230 Eddy	5.00- 8.00	7.00- 9.00
I	Oxford, 16 Turk	3.00- 3.50	4.00- 6.00
N	Palace, Market & Montgomery, Headqts (no rooms available)		
I	Pasadena, 120 Ellis		4.00- 5.00
J	Pickwick, 85 Fifth	4.00- 5.50	5.50- 8.00
M	Powell, 17 Powell	4.25	5.25- 6.25
A	President, 935 Geary	3.50	4.00- 5.00
A	Richelieu, Geary and Van Ness	4.00- 6.00	5.50- 9.00
F	Roosevelt, 240 Jones	3.50- 4.50	5.00- 7.00
L	St. Moritz, 190 O'Farrell		5.00- 6.00
E	San Carlos, 811 Geary	3.00- 4.50	4.00- 5.00
B	Senate, 487 Turk	3.00- 4.00	4.00- 6.00
E	Senator, 519 Ellis	3.50- 3.75	4.00- 5.50
F	Shaw, Market and McAllister	3.50- 4.00	4.50- 6.50
H	Sheldon, 629 Post	3.50- 4.00	4.00- 6.00
H	Somerton, 440 Geary	3.00- 4.00	4.00- 7.00
L	Spaulding, 240 O'Farrell	4.00	5.00- 6.00
L	Stratford, 242 Powell	3.50- 4.50	5.00- 7.00
M	Sutter, 191 Sutter	4.50- 6.00	6.00- 9.00
	Terminal, 88 Market		5.00- 6.00
L	Travelers, 255 O'Farrell	3.00- 3.50	3.50- 6.00
I	Virginia, 312 Mason		5.00- 6.50
I	Wm. Penn, 160 Eddy	4.00	5.00- 8.00
H	Will Rogers, 580 Post	3.00- 3.50	4.00- 5.00
F	YMCA, 351 Turk	1.50- 2.25	3.00- 3.70
H	York, 580 Geary	3.00- 5.00	3.50- 7.00
O	Civic Auditorium		

All hotels are within a radius of six tenths of a mile in zone letter circle. The prices of the rooms with twin beds, in the majority of cases, are from $1.00 to $2.00 more than the bedrooms with double bed. In the list, the least expensive double and most expensive twin is quoted.

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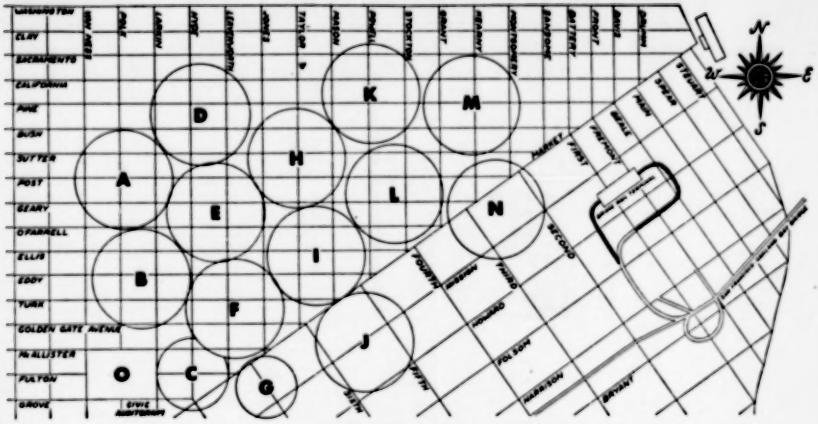

A HOUSING BUREAU has been organized for the A. M. A. Meeting in San Francisco. Since all requests for rooms are handled in chronological order, it is recommended that you send in your application as quickly as possible.

In making hotel reservations, please use the blank below. Indicate your first, second and third choice hotel. Because of the limited number of single rooms available, you will have a better chance of securing accommodations in a hotel of your choice, if your request calls for rooms to be occupied by two or more persons.

ALL REQUESTS SHOULD BE ACCOMPANIED BY A DEPOSIT CHECK OF $5.00 per person (or a minimum of $10.00 per room), made out to the A. M. A. Housing Bureau. Due to the existing crowded conditions, hotels cancel unclaimed reservations by 6:00 p. m. Therefore, a deposit is requested to ensure that your reservation will be held on your arrival day—whatever the hour, and will be credited to your account. PLEASE DO NOT SEND CASH.

Please complete the application below, giving *ALL* information requested. All reservations will be confirmed if request is received not later than May 21, 1954.

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Arrival....., at .....a.m. .....p.m. Departure....., at .....a.m. .....p.m.

Names of all occupants: **Addresses:**

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(Please attach list of additional names if you do not have sufficient space here.) If you are a Technical Exhibitor, be sure to give name of firm and individuals to occupy room or rooms reserved.

Check for $..... payable to A. M. A. Housing Bureau is enclosed to bind this reservation.

Mail confirmation to: *Signature*.....

Address.....

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Please enclose a stamped, self-addressed envelope

LIST OF STATE MEDICAL ASSOCIATIONS

SOCIETY	PRESIDENT	EXECUTIVE OFFICER	ANNUAL MEETING
Alabama, Med. Assn. of the State of	J. O. Morgan, Gadsden	D. L. Cannon, 537 Dexter Ave., Montgomery 4	
Alaska Territorial Medical Assn.	Paul B. Haugland, Fairbanks	William P. Blanton, Box 2569, Juneau	Mt.McKinley Pk., Aug. 15-17
Arizona Medical Association	Edward M. Hayden, Tucson	D. W. Melick, 341 Security Bldg., Phoenix	Chandler, Apr. 25-28
Arkansas Medical Society	R. C. Dickinson, Horatio	Mr. Paul C. Schaefer, 215 Kelley Bldg., Ft. Smith	Fort Smith, Apr. 19-21
California Medical Association	John W. Green, Vallejo	Mr. John Hunton, 450 Sutter St., San Francisco 8	Los Angeles, May 9-13
Colorado State Medical Society	Claude D. Bonham, Denver	Mr. H. T. Sethman, Republic Bldg., Denver 2	Colorado Spgs., Sept. 21-24
Connecticut State Medical Society	George H. Gildersleeve, Norwich	Creighton Barker, 160 St. Ronan St., New Haven	Hartford, April 27-29
Delaware, Medical Society of	Hewitt W. Smith, Harrington	N. L. Cannon, 1208 Delaware Ave., Wilmington	Dover, Oct. 11-13
District of Columbia, Med. Soc. of	Herbert P. Ramsey, Washington	Mr. T. Wiprud, 1718 M St., N.W., Washington 6	Washington, Nov. 1-3
Florida Medical Association	P. K. Herpel, West Palm Beach	Samuel M. Day, P. O. Box 1018, Jacksonville 1	Hollywood, Apr. 25-28
Georgia, Medical Association of	William P. Harbin Jr., Rome	David Henry Poer, 875 W. Peachtree St., Atlanta	Macon, May 2-5
Hawaii Medical Assn.	Edwin K. Chung-Hoon, Honolulu	Samuel L. Yee, 510 S. Beretania St., Honolulu	Honolulu, May 13-16
Idaho State Medical Association	E. Victor Simison, Pocatello	Mr. Armand L. Bird, 364 Sonna Bldg., Boise	Sun Valley, June 13-16
Illinois State Medical Society	Willis L. Lewis, Herrin	Mr. H. T. Sethman, Republic Bldg., Denver 2	Chicago, May 18-21
Indiana State Medical Association	William H. Howard, Hammond	Mr. James A. Waggener, 23 E. Ohio St., Indianapolis 4	Indianapolis, Oct. 26-28
Iowa State Medical Society	R. N. Larimer, Sioux City	Allan B. Phillips, 529 36th St., Des Moines 12	Des Moines, April 25-28
Isthmian Canal Zone, Med. Assn. of	Irving J. Strumpf, Ancon	Avery P. King, Box "A," Balboa Heights	
Kansas Medical Society	L. R. Pyle, Topeka	D. D. Vermillion, 315 W. Fourth St., Topeka	Topeka, May 2-6
Kentucky State Medical Association	J. Duffy Hancock, Louisville	Mr. J. P. Sanford, 620 S. Third St., Louisville 2	Louisville, Sept. 21-23
Louisiana State Medical Society	Philip H. Jones, New Orleans	C. Grenes Cole, 1430 Tulane Ave., New Orleans 12	New Orleans, May 20-22
Maine Medical Association	Norman H. Nickerson, Greenville	Mr. W. Mayo Payson, 142 High St., Portland 3	Rockland, June 13-15
Maryland, Med. and Chir. Faculty of	Bender B. Kreitzley, Hagerstown	Everett S. Diggs, 1211 Cathedral St., Baltimore	Baltimore, April 27-28
Massachusetts Medical Society	Frederic Hagler, Springfield	Robert W. Buck, 22 The Fenway, Boston 15	Boston, May 18-20
Michigan State Medical Society	L. W. Hull, Detroit	L. F. Foster, 606 Townsend St., Box 539, Lansing 15	Detroit, Sept. 29-Oct. 1
Minnesota State Medical Assn.	Justus Ohage, St. Paul	Mr. R. R. Rosell, 496 Lowry Med. Arts Bldg., St. Paul 2	Duluth, June 7-9
Mississippi State Medical Assn.	M. O. Ewing, Meridian	D. D. Kennedy, 507 First Federal Bldg., Jackson	Jackson, May 11-13
Missouri State Medical Association	E. Claude Bohrer,* West Plains	E. Royce Bolen, 634 N. Grand Blvd., St. Louis 3	
Montana Medical Association	Sidney C. Pratt, Miles City	Mr. L. R. Hegland, 1236 N. 28th St., Billings	Butte, Sept. 16-19
Nebraska State Medical Association	James F. Kelly, Omaha	R. B. Adams, 1313 Sharp Bldg., Lincoln 8	Lincoln, May 10-13
Nevada State Medical Association	Dwight L. Hood, Reno	W. A. O'Brien III, 1301 Chestnut St., Reno	Las Vegas, 1954
New Hampshire Medical Society	Albert E. Barcomb, Rochester	W. H. Butterfield, 18 School St., Concord	Bretton Woods, Oct. 3-5
New Jersey, Medical Society of	Henry B. Decker, Camden	M. H. Greifinger, 315 W. State St., Trenton 8	Atlantic City, May 16-19
New Mexico Medical Society	Albert S. Lathrop, Santa Fe	Mr. R. R. Marshall, 221 W. Central Ave., Albuquerque	Santa Fe, May 13-15
New York, Med. Soc. of the State of	Andrew A. Eggston, New York	Mr. P. Anderton, 386 Fourth Ave., New York 16	New York, May 10-14
N. Carolina, Med. Soc. of the State of	Joseph A. Elliott Sr., Charlotte	Mr. James T. Barnes, 203 Capitol Club Bldg., Raleigh	Pinehurst, May 2-5
North Dakota State Medical Assn.	Joseph Sorkness, Jamestown	Mr. Lyle Limond, Box 1198, Bismarck	Grand Forks, May 1-4
Ohio State Medical Association	Paul A. Davis, Akron	Mr. C. S. Nelson, 79 East State St., Columbus 15	
Oklahoma State Medical Association	John E. McDonald, Tulsa	Mr. R. H. Graham, 1227 Classen Dr., Oklahoma City 3	Oklahoma City, May 9-12
Oregon State Medical Society	Milton Mackey, Portland	C. E. Lattimer, 1115 S.W. Taylor St., Portland 5	Portland, Oct. 13-16
Pennsylvania, Med. Soc. of State of	James L. Whitehill, Rochester	H. B. Gardner, 230 State St., Harrisburg	Philadelphia, Oct. 17-22
Puerto Rico Medical Association	F. Hernandez-Morales, Santurce	L. R. Guzmán-López, Box 9111, Santurce	Santurce, Dec. 8-12
Rhode Island Medical Society	Earl G. Kelly, Pawtucket	Thomas Perry Jr., 106 Francis St., Providence 3	Providence, May 4-5
South Carolina Medical Association	W. R. F. Bakely, Sumter	Robert Wilson, 165 Rutledge Ave., Charleston	Myrtle Beach, May 11-13
South Dakota State Medical Assn.	Roland G. Mayer, Aberdeen	Mr. J. C. Foster, 1st Nat'l Bank Bldg., Sioux Falls	Huron, May 18-20
Tennessee State Medical Assn.	A. M. Patterson, Chattanooga	Mr. V. O. Foster, 706 Church St., Nashville 3	Nashville, Apr. 18-21
Texas Medical Association	George Turner, El Paso	Mr. N. C. Forrester, 1801 Lamar Blvd., Austin	San Antonio, May 3-5
Utah State Medical Association	Frank K. Bartlett, Salt Lake City	Mr. H. Bowman, 42 S. Fifth East St., Salt Lake City	Ogden, May 26-28
Vermont State Medical Society	Woodhull S. Hall, Bennington	James P. Hammond, 337 South St., Bennington	Bret. Wds., N. H. Oct. 3-5
Virginia, Medical Society of	Vincent W. Archer, Charlottesville	Mr. R. L. Howard, 1105 W. Franklin St., Richmond 20	Washington, D. C., Nov. 1-3
Washington State Medical Assn.	A. G. Young, Wenatchee	Bruce Zimmerman, 1309 Seventh Ave., Seattle 1	Spokane, Sept. 18-22
West Virginia State Medical Assn.	Russell Kessel, Charleston	Mr. Charles Lively, Box 1031, Charleston 24	W. Sulphur Spgs., Aug. 19-21
Wisconsin, State Medical Society of	H. Kent Tenney, Madison	Mr. C. H. Crownhart, 704 E. Gorham St., Madison 3	Milwaukee, Oct. 5-7
Wyoming State Medical Society	James Sampson, Sheridan	Mr. Arthur Abbey, Box 1252, Cheyenne	Sheridan, June 7-9

*Deceased

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METHEMALBUMINEMIA . . . page 21
Also . . . Liver Pathology of the Liver; Physician as Chef

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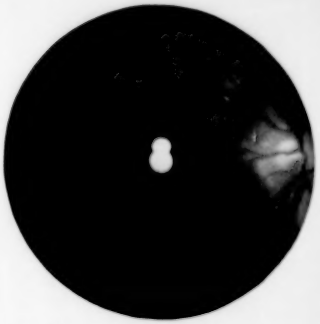
Melanoma and Nevi



Melanoma of the choroid, seen on funduscopy: a dusky protrusion in the temporal retina, out of focus with the eyeground.

GEORGE T. PACK (Memorial Center for Cancer and Allied Diseases, New York) has stated that the average adult has at least 20 benign nevi, which are distributed over the surface of his body. While malignant melanoma fortunately is infrequent, H. W. Meyer and S. L. Gumport (New York University–Bellevue Medical Center) state that the disease is more common than is usually thought; they assert it makes up 1 to 2 per cent of all malignant tumors and about 20 per cent of all skin cancers. Others find it much less often.

Melanoma originates in a pre-existing pigmented nevus in an uncertain share of cases – from about 18 to as many as 65 per cent, in the experience of different authors. In fact, E. F. Traub (New York Medical College) has stated that up to the present time there has been no absolutely proved case where the intradermal "common mole" (for example, of the face) has become malignant. Frequently melanoma can be traced to a postpuberal malignant freckle (lentigo maligna) that begins as a brown macule, enlarges slowly and unevenly and finally forms a tumor. This may exude serum or blood, and may or may not contain pigment. Malignant change in a mole is said to be characterized by rapid enlargement, deep coloration and a tendency to bleed easily. Hence it is well to have in mind that:

• Any tumor should be biopsied by total excision without delay when melanoma is suspected, even when there is no evidence of a pre-existing nevus. *For that matter, any tumor should be biopsied.*

• Melanoma is most common on the lower extremities (especially the feet), genitalia, head and neck, but may occur anywhere in the body – e.g., the eyes and body orifices (but rarely in the gastrointestinal tract). Nevi found about the upper extremities, face, neck and trunk are more often benign. Thus, while there is found to be some overlapping, the sites of predilection of nevi and melanoma differ.

• Nevi are benign tumors of pigment-forming cells; melanomas are malignant tumors of pigment-forming cells that arise in embryonic life from the neuroectoderm and appear in the skin, the eyes and the pia mater about the medulla. Melanomas resemble neural malignancies in their high resistance to roentgen therapy, in sharp contrast to other skin cancers, most of which are relatively radiosensitive.

• Nevi with active proliferation of cells at the junction of the epidermis and dermis are known as active or junctional nevi. S. W. Berkheiser and A. E. Rappoport (Youngstown Hospital Association, Youngstown, Ohio) have provided recent data in support of the concept advanced by P. Masson (University of Montreal) of the dual origin of this type of nevus from both intraepidermic melanoblasts and the schwannian cells of the dermic nerves. This may explain the high frequency of transformation of the junctional nevus into the malignant melanoma.

• Clinically, nevi vary in appearance from smooth brown macules, through elevated papular tumors, to huge hairy areas covering large portions of the body. The junctional nevus, smooth-surfaced, hairless and of a slate-blue or black color, is more often the precursor of melanoma than the smooth brown mole or the elevated hairy nevus. A melanoma may be macular or papular, slate-blue to black (except in the rare amelanotic melanoma) and at first smooth and usually hairless.

• According to I. M. Scharnagel and G. T. Pack (Memorial Center, New York), periods of altered hormone balance involving the pituitary, adrenals and ovaries stimulate the formation and spread of melanoma. The tumors tend to grow both superficially and in depth and spread through lymphatic channels and the blood-stream. Melanomas before puberty are relatively benign – those which Sophie Spitz (Memorial Center, New York) has classified as "juvenile melanomas," asserting that they lack the malignancy of the adult type. Occasionally these juvenile melanomas persist into adulthood and are misdiagnosed as malignant melanomas.

• Suspicion is warranted when there is sudden accelerated growth in a mole or junctional nevus; or

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Gross Pathology of the Liver 27

Lists of references may be obtained for all SPECTRUM *articles. Please address all communications to Medical Department, Pfizer Laboratories, 630 Flushing Avenue, Brooklyn 6, New York.*

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V 154
1954

William J. Welch, Princeton, N. J., Specialist — Internal Medicine and Gastronomy

A Physician-Cook's Tour de Force

First steps. Skin of quartered young chicken is rubbed with lemon to bring out flavor and with ground ginger to sharpen aroma. Put ¾ ii butter in heavy frying pan and melt over a moderate flame.

Sealing in juices. Segments are dropped into bag containing 1 cup flour, 1 tbsp. coarse salt, ⅛ tsp. pepper. Each part is agitated until it is coated (dredging). This yields a crisp texture and seals in juices.

Cook's detour. Chicken is placed in pan. As it fries, Welch starts work on a salad dressing made from juice of 1 garlic clove, wine vinegar, Roquefort cheese and olive oil, with sour cream to act as a binder.

The Elements of Aliments

or the Pleasures of Cooking with Gastronomy

When we've stuft
These pipes and conveyances of our blood
With wine and feeding, we have suppler souls . . .
SHAKESPEARE

PHYSICIANS WHO HAVE UNDERGONE alimentary insult in Army mess halls or at hospital festive boards learn – if they survive – that even unpretentious home cooking has zestful qualities that mass-scale cuisine cannot rival.

In the last decade or two, thousands of erstwhile luncheonette epicures and refrigerator looters (cum and sans M.D. degrees) have taken up cookery and learned the remarkable things that can be achieved by the alert and hungry amateur. Physician-cooks like William J. Welch (left) of Princeton, N. J. (New York University–Bellevue Medical Center) and Salvatore P. Lucia of San Francisco (University of California School of Medicine) found not only a challenging hobby but also a store of practical experience from which to draw when confronted with the plaintive "But, doctor, what *can* I eat?"

Their advice to beginners in cookery is: "Start with the simple thing." Overambitious souls who would like to think of themselves as virtuosi of herbs and wines often end up serving the opus to the garbage-disposal unit. A good cookbook or two are the best guides. Most amateurs feel constrained to follow a recipe to the last speck of pepper; the physician who knows his way among the basic sciences may prefer to experiment. After all, he *does* know the physiology of taste, the infinite variety of flavors that excite olfaction (and flow of digestive juice), how best to exhilarate the hypothalamus and how moist heat and salt act to tenderize a fibrotic old fowl.

Experience has shown that meats gain a better texture and a more esthetic appearance – inside and out – if cooked *slowly*. Tender cuts deserve dry heat, i.e., roasting, broiling or pan broiling. Meat-cooking rules hold for fish too. Vegetables are most nutritious when baked, steamed or heated in a waterless cooker. Seasoning and spices are used to improve palatability; some, like salt and the aromatic acids (lemon), evoke hidden flavors; others add taste elements of their own. Cooking authorities quarrel on many subjects but agree on one: a good cook tastes his food before he serves it.

Successful kitchen practice includes orderly work habits and a calm range-side manner. In this era of thermostatically controlled heat, precut frozen vegetables and heat-and-serve breads, little trouble is involved in preparing a meal. The amateur who leaves the cookbook and begins exploring on his own encounters problems of a higher order, but, again, they are not the sort to daunt the physician accustomed to experimenting, improvising, and triumphing over the subtle and invisible. END

Culinary Principles and Fried Chicken for Supper

Applying heat. Segments are turned so that both sides fry to a golden brown, and then the flame is turned lower. Meanwhile dressing is finished, endive is sliced and both are stashed in the refrigerator.

Wine and finale. Dry Marsala poured over chicken is kindled to burn off alcohol, leave wine taste. Pieces are doused with chicken stock (broth), simmered 30 minutes on low flame, and served, as at right...

1 2

3 4

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when there is ulceration, inflammation or increased pigmentation (clinically) and pleomorphism and mitotic figures (histologically). Junctional nevi appearing late in life are more likely to become malignant than those appearing early.

• Lack of pigment in a tumor does not exclude malignant melanoma, since as many as half of melanocarcinomas of mucous membranes are unpigmented, and even those of the lower extremities occasionally are not pigmented.

• Pigmented nevi may be removed from sites of friction, or for cosmetic reasons, by local measures; melanoma is always treated by radical surgery (e.g., excision of the tumor, the lymphatic channels and the lymph nodes in one piece).

• Five-year survival after excision of melanoma is no guarantee of cure, according to Arthur C. Allen (Memorial Center, New York) and Sophie Spitz. This finding may be due to the tendency to late recurrence in a surprisingly high percentage of cases.

Newer Studies

Investigations along more basic lines now promise to cast some light upon the workings of pigment metabolism. A. Bunsen Lerner and Thomas B. Fitzpatrick (University of Oregon Medical School) have been probing the enzyme systems of cellular pigmentation in melanocarcinoma with these provocative and important conclusions:

• Tyrosine is oxidized by the enzyme tyrosinase to form the brown pigment melanin present in normal skin and in melanoma. Human skin contains tyrosinase. When tyrosine is added to skin slices in vitro, melanin is formed — but only under certain conditions.

• This tyrosine-tyrosinase system can be inactive or "inhibited" in normal melanogenocytes, pigmented nevi, freckles and verruca senilis, and slices from these tissues do not form melanin under the experimental conditions. By contrast, the tyrosinase system is in an *active* state in the malignant melanogenocyte and in the normal melanogenocyte irradiated with ultraviolet, roentgen rays or thorium X. When tyrosine is added to such tissue slices, melanin *is* formed.

• Dermal or junctional nevi show negative or weakly positive tyrosinase activity, while melanocarcinomas give a strongly positive reaction. Other types of cancer of the skin fail to react.

It appears that an *active* tyrosinase system (so defined) is associated with the malignant character of the human pigment cell, and that the normal (or at least nonmalignant) cell has this system in a less active or "inhibited" state. A method of using tyrosine labeled with radioactive carbon (C^{14}) is being developed to test for tyrosine activity. Radioactive melanin is formed in the reaction and determined from radioautographs. Conceivably this might turn out to yield a practical method of assessing the malignant or potentially malignant character of a given neoplasm. It might even show the transition of a junctional lesion into a malignant melanoma before such a change is detectable by histologic examination.

Naturally the greatest interest attaches to finding the "inhibitor" (if any) responsible in vivo, or to discovering an artificial one. Monobenzyl ether of hydroquinone, an industrial compound causing leukoderma, has been investigated by K. H. Kelly and his associates of the National Cancer Institute because it inhibits the formation of melanin in the skin of human beings and of pigs. Unfortunately, it was found to have no effect in patients with malignant melanoma.

These and other studies may ultimately provide a rational chemotherapeutic approach to eradication of malignant melanoma. END

V 15
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Seen & Heard
—Reports in the news

Cerebral Tolerance to Cardiac Arrest

Chicago — The brain is thought to be irreparably damaged by cardiac arrest and consequent anoxia beyond a 4- to 5-minute period. Max Thorek (American Hospital, Chicago) recently reported a case, however, in which there was complete cardiac standstill for a period of 19 minutes, and yet there were no lasting neurologic changes. The patient, a woman of 23, suffered cardiac arrest during anesthetic preparation for an appendectomy. The heart finally resumed spontaneous activity after massage via a left rectus and diaphragmatic incision.

The course of neurologic recovery: coma — 4 days; regained full consciousness — seventh day (motor weakness still marked); walked — seventeenth day (gait staggering, with positive Babinski's sign); discharged — thirty-second day (mental state still clouded and speech hesitant). Thereafter, improvement was constant, and 5 months after the episode of cardiac arrest the finer movements of the extremities were completely restored and speech was practically normal. The patient at this time had become pregnant. Gestation, labor and child were all normal.

In the last 10 years Thorek has seen 11 patients with cardiac arrest. Of these, 6 were saved by cardiac massage and 5 died. Manual massage, he says, is most useful but may fail in ventricular fibrillation. When this occurs, life may be saved by the use of an electric defibrillator.

(Reported at the Cushing Memorial Lecture, McGill University, Montreal.)

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- The duodenal bulb is larger than normal.
- Outline of the bulb is scalloped.
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Hyperplasia of Brunner's glands thickens the mucosal folds 2 to 3 times and causes the bulbar enlargement as well as the scalloped roentgenographic appearance. Peristaltic activity does not do away with this appearance, and pressure on the bulb exaggerates the findings.

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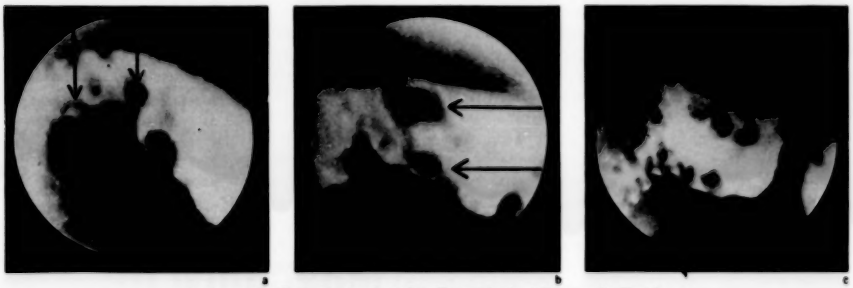
Gastroenterology Capsules

Philadelphia — Surveying the management of gastroenterologic problems, James L. A. Roth (Graduate School of Medicine, University of Pennsylvania) passes on some useful observations:

- More than 50 per cent of patients presenting gastrointestinal symptoms have functional rather than organic disorders. Most frequently encountered are the symptom complexes of aerophagia, followed by the functional enteropathies — irritable colon and emotional diarrhea. Underlying factors in these and other functional gastrointestinal disorders are sustained tension, anxiety, fear or guilt. Usually superficial, such emotional disturbances can as a rule be detected and dealt with in some measure by the understanding physician. Essen-



Radiographic Patterns Attributed to Hyperplasia of Brunner's Glands.
a. Large nodular folds at apex of cap and in descending loop. b. Localized nodules in apex of cap. c. Multiple nodules in cap. Scalloped edges.

MELANOMA AND NEVI

continued from page 21

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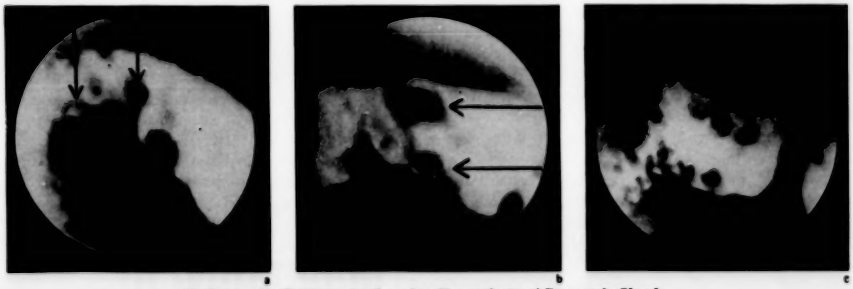

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Seen & Heard

tials are reassurance and an explanation of the mechanism by which symptoms are produced.

• Belladonna remains the gastroenterologist's most useful therapeutic adjunct. Roth does not believe that any of the numerous anticholinergic, antisecretory drugs are distinctly more effective in depressing motility and secretion than belladonna or atropine, or offer any advantage in the ratio of efficacy to side effects. All must be pushed to the limit of tolerance to produce benefit.

• There is no substitute for the bland, low-residue diet, graduated over a period of 2 to 3 months, in the treatment of peptic ulcer. The relief of pain, usually easily achieved by medication, may give a false sense of security. If distress is not controlled within 48 to 72 hours on a strict ulcer regimen – 5 ounces of milk hourly, antacid between feedings, sedation and vagus inhibitors – a complication should be suspected, most often penetration.

(Reported at a meeting of the Delaware Academy of General Practice, Wilmington.) END

PICTURE CREDITS

PAGE 21: Courtesy of Department of Ophthalmology, Post-Graduate Medical School, New York University-Bellevue Medical Center.

PAGE 24-2, Courtesy of E. F. Traub, New York Medical College-Flower and Fifth Avenue Hospitals; 1, 3, 4, courtesy of H. H. Williams and G. S. Sharp, Pasadena Tumor Institute, Pasadena, Calif.

In SPECTRUM Next Week

Infectious Mononucleosis – *An up-to-date discussion of the ways in which improved clinical and laboratory procedures can help define this disease.*

That Perilous Place: Home – *Some elements of the "vaccine of safety education" that physicians might administer to help prevent the 28,000 deaths and 4 million injuries that occur in homes each year. Also:* **Micropathology of the Liver.**

Pfizer ANTIBIOTICS newsletter

Intermittent therapy, reduced toxicity – After eight months of intermittent streptomycin, most tb patients "had only transient dysfunction regardless of the degree and type of ototoxicity" during administration, report H. L. Cline, J. H. Houseworth and F. W. Pitts in the *A.M.A. Archives of Otolaryngology 59:* 100 (January) 1954.

Eighth nerve damage of varying degree was found on completion of treatment in 32 of 100 patients but returned to normal one to six months later in 16 of 21 followed. Schedule: 2 Gm. streptomycin sulfate intramuscularly every third day for six months and 1 Gm. every third day for next two months.

–Antibiotics Newsletter, Vol. IV, No. 5

V 15
1954

MAGNAMYCIN

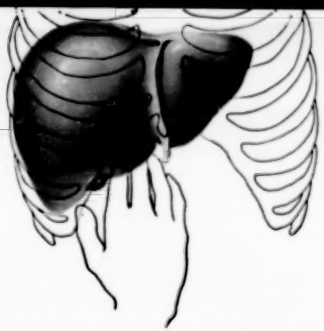
Pfizer

for selected cases where resistance is encountered

Magnamycin® BRAND OF CARBOMYCIN

Effective against gram-positive organisms resistant to penicillin and other common antibiotics, particularly staphylococci, enterococci and other streptococci.

Supplied as sugar coated tablets containing 250 mg. or 100 mg. each of well-tolerated Magnamycin.



Gross Pathology of The Liver

THE LIVER may become enlarged and readily palpable when a site of disease; and what is palpated is actual gross pathology in the living patient – with the limitations, to be sure, of the abdominal wall, the examining hand and the presence and degree of enlargement. Shown here are a number of liver conditions – with characteristic alterations in gross appearance – that lend themselves to recognition from the clinical history, physical examination including palpation of the liver, the course of the disease, and the derangement and pattern of liver function studies. It is of course the *microscopic* picture that is finally diagnostic of liver diseases; but the important thing is that they *do* suggest themselves from clinical observation. The fact that liver biopsies are more frequently done than ever before hardly diminishes the value of attentive examination at the bedside, especially with a clear picture in mind of gross liver pathology.

Hemangioma of the liver is not uncommon and may be multiple. When large enough, it may be felt as a mass. It occurs more frequently in females and for some reason involves the left lobe more often than the right. Hemangiomas appear as red or purplish masses, resembling infarcts, that may give rise to no symptoms unless they are large. Then they may cause obstructive jaundice or digestive disturbances due to pressure on neighboring structures. Rarely, rupture into the peritoneum has been reported. Not only may a large mass be felt, but often a venous hum can be heard over it.

A "*fatty liver*" (infiltration and/or degeneration) is generally enlarged, smooth and nontender on palpation. It can occur with severe malnutrition, in alcoholism, after ingestion of certain poisons, in chronic anemias and in diseases accompanied by alterations in fat metabolism, such as seen in diabetes. It is generally asymptomatic unless it develops rapidly, causing distention, pain and tenderness. There may be little functional impairment and the pathologic process is at times reversible. Whether a fatty liver in man is antecedent to cirrhosis is still debated. Grossly, such a liver is large and pale with a yellowish color and greasy appearance on cut section. Microscopically, fat is found both in and out of the cells in droplets of small or large size.

"Cirrhosis" is usually *Laënnec's cirrhosis*, often associated with alcoholism and malnutrition or with unknown or uncertain etiologic factors. The edge of such a liver is hard on palpation; the fact that it is also finely granular cannot be recognized. The liver is usually enlarged, but it may be shrunken and not palpable. The clinical manifestations are dependent on the duration and extent of the pathologic process. Liver function studies, such as bromsulphalein excretion, may give a clue to the degree of damage but are not at all infallible; they are most useful when performed serially. The liver is firm, and its finely granular surface is in contrast to toxic or coarse nodular cirrhosis. Its size depends on the amount of scarring and atrophy, on the one hand, and adenomatous regeneration, inflammation and fatty infiltration, on the other. Microscopically there is distortion of the normal lobular architecture, which is reflected in the vascular pattern, with vessels crowded in the dense connective tissue septa that separate adjacent nodules, themselves poorly supplied. Fairly extensive anastomoses between hepatic and portal veins and hepatic arteries are found. The exact relation between these anastomoses and portal hypertension is not certain. Probably several factors cause the latter, including partial obliteration of the vascular bed, transmission of arterial pressure back into the portal system, and obstruction of the hepatic veins from pressure of regenerating nodules of liver tissue and from fibrosis.

Biliary cirrhosis follows obstruction to the biliary tract. Such a liver is enlarged, palpable and nodular, though the nodules cannot be felt as such. Whether obstruction alone can cause it remains unanswered. Several classifications have been proposed, but basically all cases are either primary, or secondary to some extrahepatic obstruction. Most interesting is primary or cholangiolitic biliary cirrhosis where there is no extrahepatic obstruction. This is often subdivided into a xanthomatous and a nonxanthomatous variety. In either of these, jaundice, pruritus and hepatomegaly are prominent. Chemically there are markedly elevated serum alkaline phosphatase, cholesterol and total serum lipids (the last more marked in the xanthomatous group). Grossly, the liver is greenish in color owing to staining with bile.

Microscopically, involvement of the smaller biliary radicles with pericholangitis is characteristic.

Coarse nodular cirrhosis is produced by postnecrotic scarring and is generally regarded as a healed stage of acute liver atrophy, though the term is often taken to include subacute and chronic hepatides in varying stages of activity, arrest and healing. Thus enlargement may or may not be felt, but there may be nodules large enough to palpate. Symptoms depend on the degree of parenchymal involvement and scarring. Patients are generally younger than those with Laënnec's cirrhosis and are more frequently jaundiced but less frequently have ascites, varices and hepatomegaly. Furthermore, death is more often due to hepatic insufficiency. Pathologically there are large nodules, varying greatly in size, which result from regeneration following necrosis. Microscopically there are large masses of liver cells lacking true lobular arrangement, which are separated by large bands of condensed stroma and fibrotic tissue.

Amebic abscesses are the more common of the 2 types of liver abscesses, amebic and pyogenic, though the proportion varies geographically. Neither is apt to be palpable as such, though there may be an enlarged and tender liver. Either type may be single or multiple, acute or chronic. Hepatic amebiasis may also take the form of diffuse hepatitis, and this, especially, may cause tenderness and enlargement. Shown here are multiple *amebic abscesses*. Diagnosis may be difficult. There may be no obvious history of pre-existing dysentery or even diarrhea. Helpful diagnostic observations include elevation and fixation of the right leaf of the diaphragm, little or no change in liver function tests, response to specific therapy, and generally a positive complement-fixation test, with a fall in titer following therapy. When stools are negative, a common finding, mucus obtained on sigmoidoscopy may show *Endamoeba histolytica*.

Cancer of the liver may give rise to few or no signs on physical examination or otherwise. Occasionally a large firm nodule can be felt and this diagnosis entertained as a possibility. Cancer is usually metastatic, the ratio of primary to metastatic involvement being about 1:20. Abdominal organs, notably the gastrointestinal tract, provide the most frequent source. Signs and symptoms may include those of the cancer elsewhere, and evidence of complete biliary obstruction, jaundice, marked portal hypertension, hepatic failure — or nothing at all. The liver function tests may fail to show any abnormality; those tests most apt to be disturbed are the alkaline phosphatase and bromsulphalein tests. The diagnosis rests on finding evidence of the primary site or upon liver biopsy.

Primary carcinoma may be suspected in the presence of cirrhosis, given a large, hard liver presenting nodules that are sometimes tender. The suspicion grows if the alkaline phosphatase is greatly elevated. Unlike secondary cancer, it is uncommon in this country at least, though the incidence is high among Orientals. In African natives (in whom malignant diseases as a whole are rare) it is the commonest tumor. The *hepatoma* or liver cell type is more common than the cholangioma or bile duct type. As examination suggests, the tumors may be diffuse or nodular and, if nodular, they may be single or multiple. Definitive diagnosis can be made only by microscopic examination. Symptoms and signs are variable, but most frequent are right upper quadrant pain, anorexia, weight loss, ascites and jaundice.

Suppurative pylephlebitis produces a very sick patient with chills, high fever, abdominal pain, distention and vomiting. The liver is often enlarged and tender, and jaundice may be present. This is a septic condition, usually secondary to suppurative disease in the portal vein that has followed an ulceration, infection or perforation of the gastrointestinal tract. Pyogenic abscesses have been decreasing roughly in proportion to the decrease in complications of gastrointestinal infections. Acute appendicitis and cholecystitis are the most frequent causes, and the organisms most frequently involved are of the coliform group. Metastatic pylephlebitis from distant sites of infection may also occur. While in past years the prognosis has been grave, cures are today obtained with intensive antibiotic therapy.

Chronic passive congestion of the liver occurs in heart failure and is the usual reason for "2F↓RCM" (the edge 2 fingerbreadths below the right costal margin) or more. That is, the liver is enlarged and palpable and in recent congestion may be tender. If enlargement occurs rapidly, distention, pain and often vomiting may result. The earliest changes are dilatation of the central sinusoids with trabecular narrowing. Later centrolobular necrosis occurs, with development of fibrosis. In cases of long standing, hepatic fibrosis may develop, which, unlike Laënnec's cirrhosis, begins centrally in the lobules, is dependent upon portal hypertension of central origin and generally occurs in patients with constrictive pericarditis, tricuspid valvular disease or long-standing, repeated episodes of severe right-sided congestive failure. Bromsulphalein excretion is the liver function test most frequently impaired. This diagnosis is incidental to the cardiac failure that caused it. Liver biopsy is unnecessary and presents the hazard of hemorrhage.

Echinococcus disease of the liver (hydatid disease) may take many years to become apparent, if ever; many cases present no palpable mass or other evidence of the disease during life. Fortunately it is rare in this country, but it is common in Greece, Asia Minor, etc. Infestation is generally acquired from the dog, which harbors the adult worm. Cysts, often multiple, may become very large. About 25 per cent of infested subjects never de-

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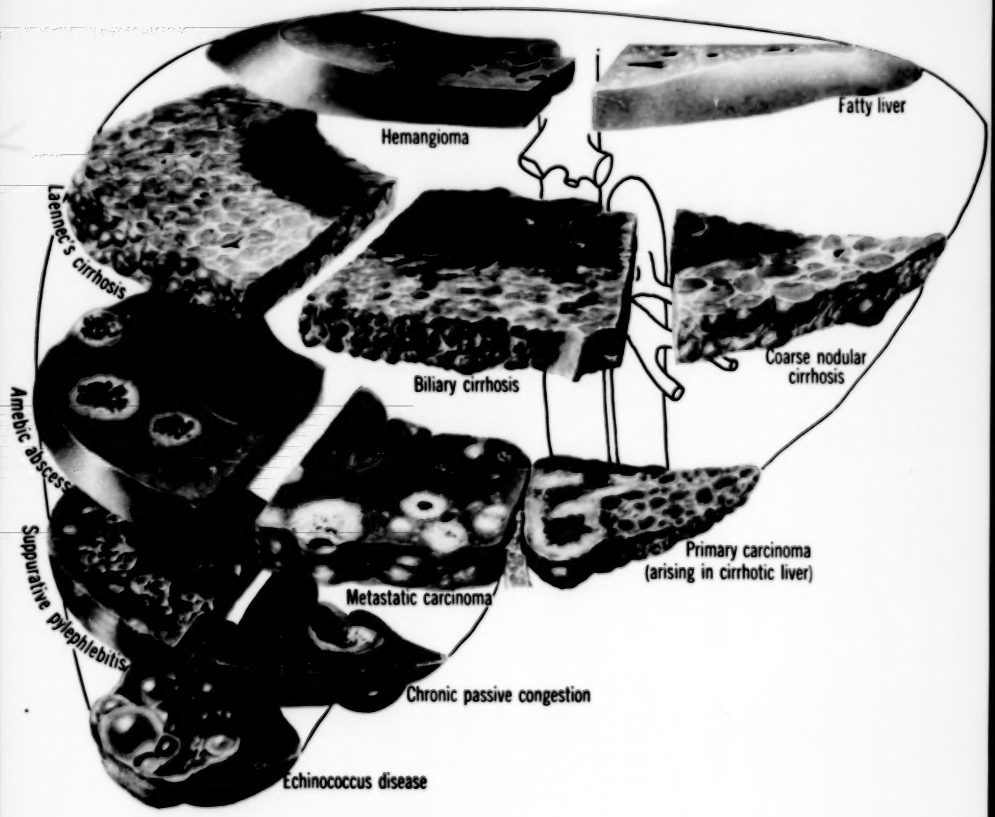

velop clinical disease. Symptoms are often bizarre. Pain, usually in the right upper quadrant, occasional intermittent jaundice and fever may occur. Symptoms of anaphylaxis may frequently follow leakage of cyst fluid or frank rupture. Laboratory findings may include eosinophilia, which is often marked when present at all. An intradermal test often gives a wheal within 30 minutes, and over half the cases show a positive complement-fixation test.

Some other, less common pathologic states include various types of parasitic disease (schistosomiasis, etc.), chronic specific infections (syphilitic gumma, hematogenous tuberculosis, etc.) and mycotic disease, lymphoid disease (Hodgkin's, leukemia), certain other tumors, and disorders of metabolism. The microscopic picture of hepatic disease can supplement the gross findings which are shown here and is finally decisive. END

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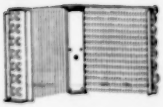

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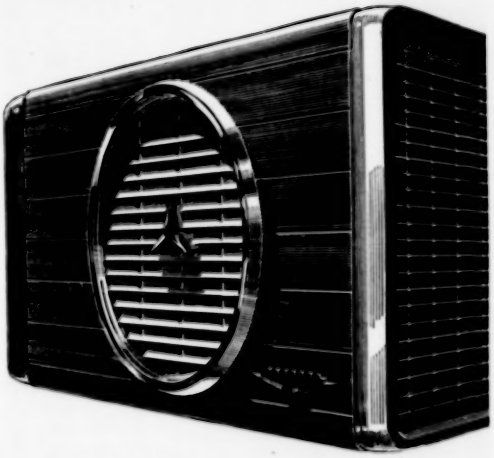

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1. Sulzberger, M.B. and Witten, V.W., J.A.M.A. **151**:468, 1953
2. Alexander, R.M. and Manheim, S.D., J. Invest. Dermat. **21**:223, 1953

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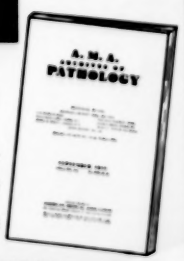

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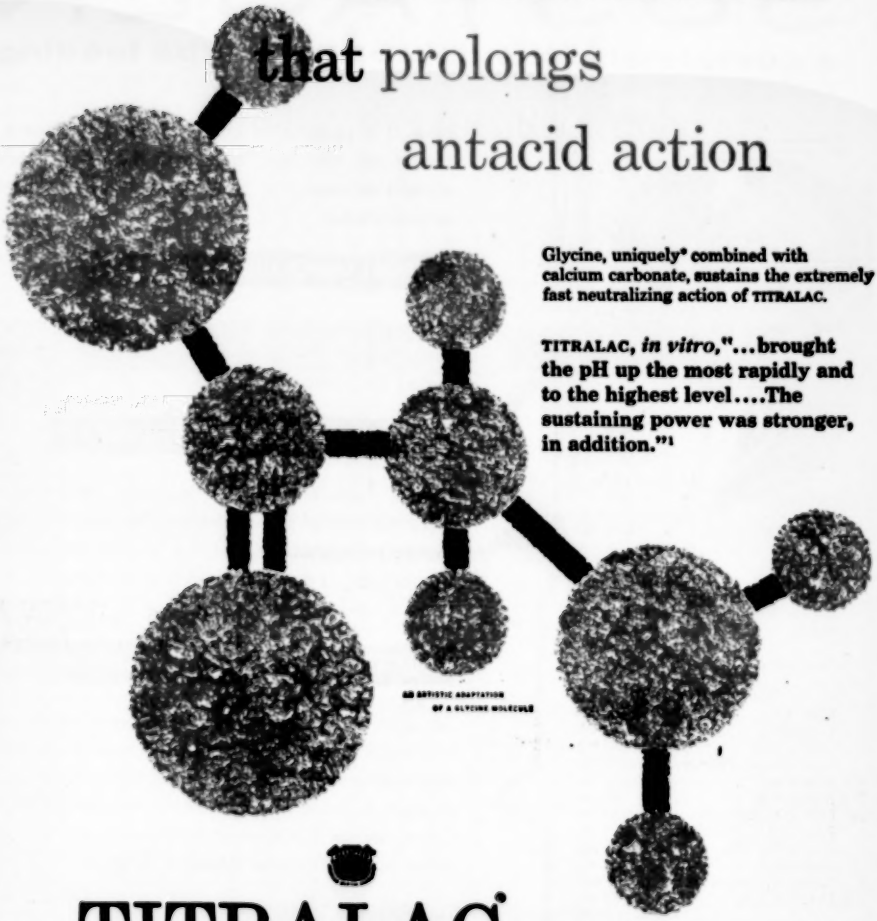

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1. Hammarlund, E. R., and Rising, L. W.: J. Am. Pharm. A. (Scient. Ed.) *41*:295, 1952.

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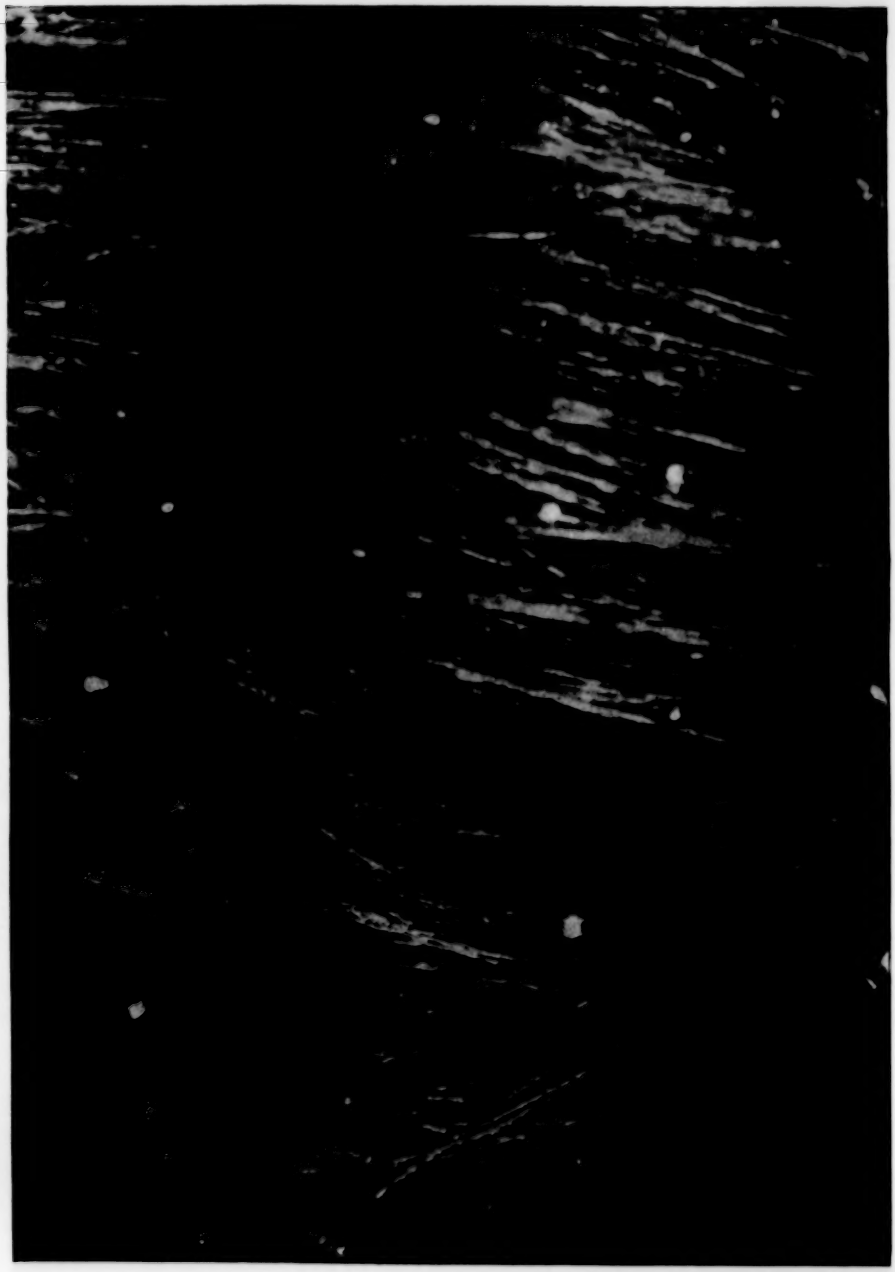

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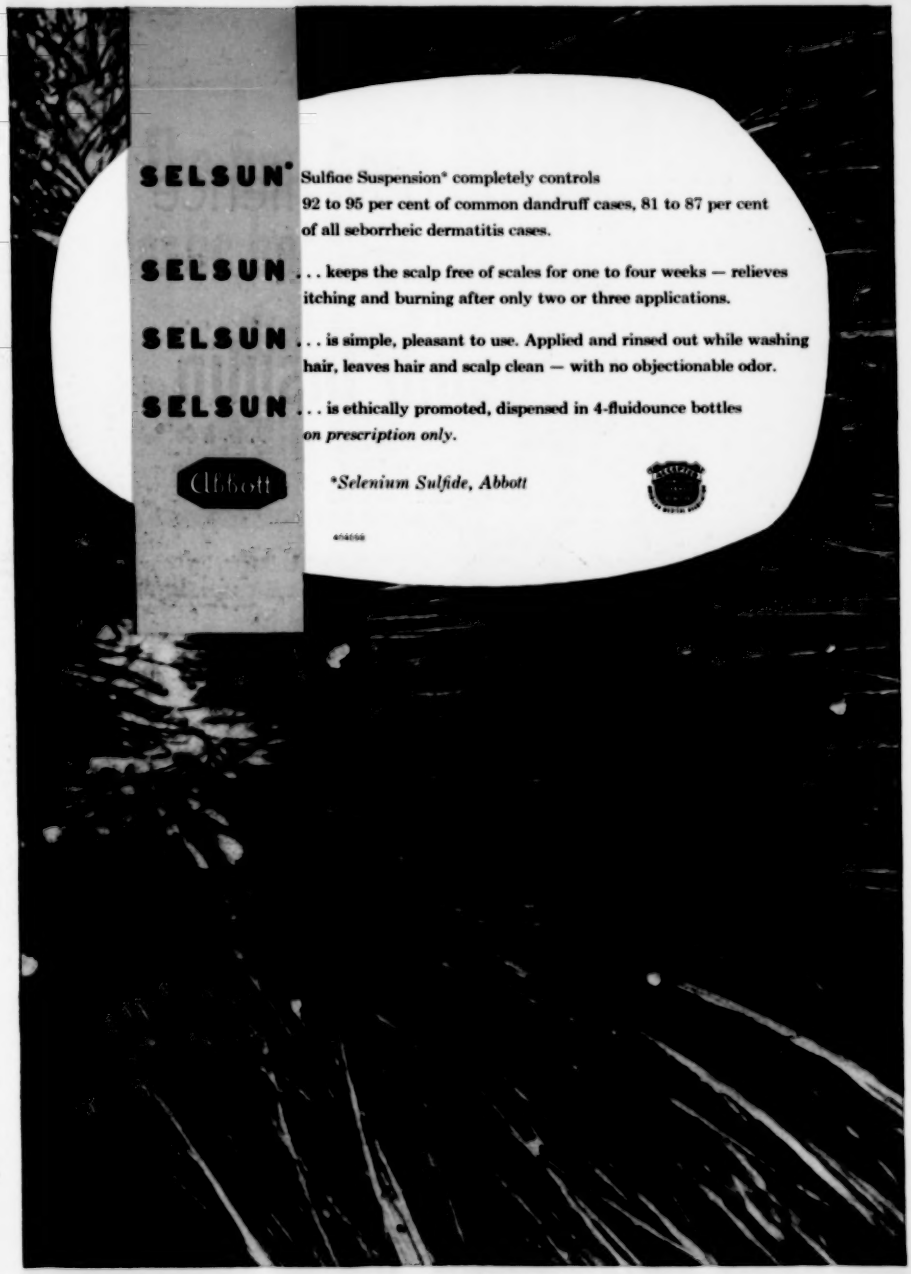
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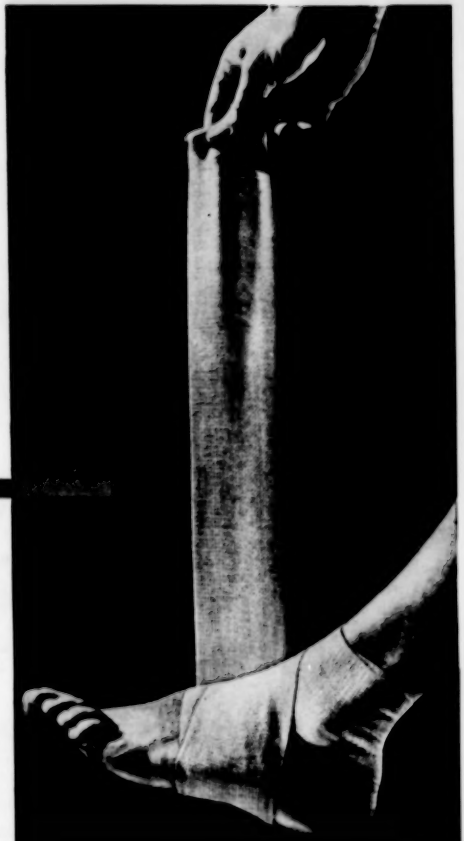

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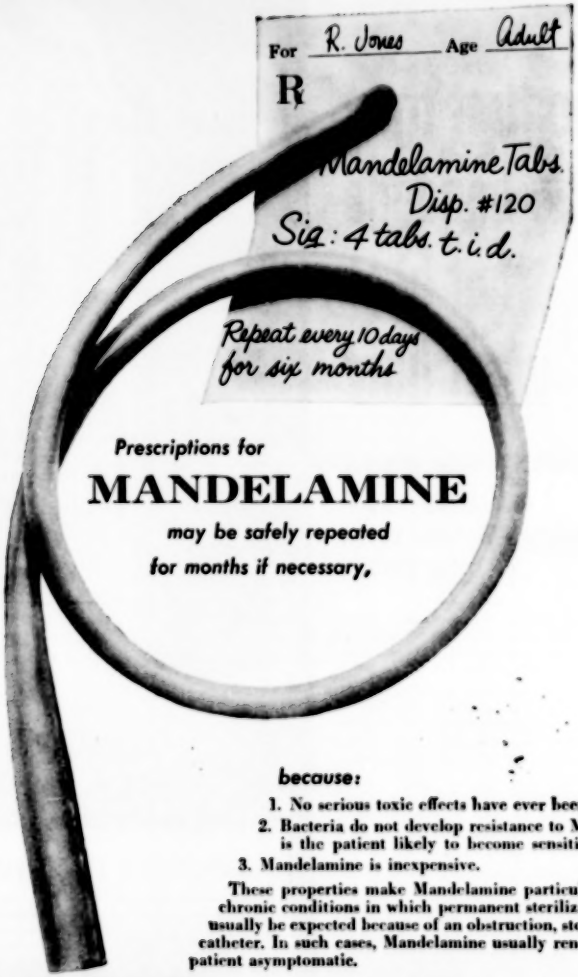

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[1]Zink, O. C.: Routine Clinical Experiences Using Urokon 70% in Intravenous Urography (Private Report dated May 12, 1952).
[2]Nesbit, R. M. and Nesbitt, T. E.: Experiences with High Concentration Urokon for Pyelography. Univ. of Mich. Med. Bull. *18*:225 (1952).
[3]Barry, C. N. and Rose, D. K.: Urokon Sodium 70% in Excretory Urography, J. Urol. (to be published).

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*Moss, N. H.; Morrow, B. A.; Long, R. C., and Ravdin, I. S.: Effectiveness of Chloresium in Wound Healing and Deodorant Effects, J.A.M.A. *140*:1336 (Aug. 27) 1949.

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INCIDENCE OF MALIGNANCY IN TOXIC AND NONTOXIC NODULAR GOITER

Joseph E. Sokal, M.D., New Haven, Conn.

Many papers have appeared during the past 10 years calling attention to the high incidence of cancer among nontoxic nodular goiters that are surgically treated. Different authors have presented their data in somewhat different ways. Most have included patients with known cancer, patients suspected of having cancer, and patients thought to have benign goiter in a single group and have given the percentage of cancer found in resected specimens for the entire group. Many have indicated that cancer was found much more commonly in thyroid glands with single nodules than in multinodular glands.[1] Others have pointed out, however, that it is very difficult to determine clinically just how many nodules there are in a particular gland and that preoperative classification on this basis is of relatively little value.[2] Some have stated that nodular goiters are more likely to be cancerous in men than in women.[3] All authorities appear to agree that cancer is not common in toxic goiter.

Many authors have made the mistake of applying surgical statistics to the population at large, without considering whether their patients constituted a representative sample of the population. They have assumed that, if 5% of nontoxic nodular thyroid glands that are surgically treated contain cancer, the same must be true of the glands that are not operated on. Such an assumption is incorrect, of course, since it implies a complete lack of selection of the patients referred for operation. Actually, as was recently reemphasized by Crile and Dempsey,[4] there is a great deal of selection, both by the patients themselves and by the various physicians who see them prior to surgery. Relatively few nontoxic goiters are operated on. These are selected by a process that statistically favors cancer and tends to exclude asymptomatic benign nodules. The extent of this selection—and hence the correction that must be used to make the surgical statistics applicable to the population at large—is not known for most communities. Crile and Dempsey estimated that at least a tenfold concentration of cancer had been achieved in the cases in which operation was done at the Cleveland Clinic.

In toxic goiter, however, the situation is quite different. Until relatively recently, surgery was the only therapy available for hyperthyroidism and it is still the most commonly used treatment for this disease. The surgical experience with toxic goiter, therefore, includes the great majority of all cases in which this diagnosis was made. There is no reason to believe that exclusion of the minority that was not operated on has affected the statistics on cancer incidence more than slightly. The surgical data may thus be accepted as valid for all toxic goiter in this regard. It is the purpose of this paper to review some of the American statistics on goiter and on thyroid cancer, to call attention to some of the erroneous conclusions that have resulted from the study of unrepresentative samples, and to attempt to estimate the incidence of malignancy in an unselected group of persons with nontoxic nodular goiter.

TOXIC GOITER AND THYROID CANCER

The frequency of hyperthyroidism in the United States is unknown. It is possible, however, to estimate its order of magnitude. An extensive survey of illness in this country, based on a door-to-door canvass of a carefully selected population sample of 2,500,000, revealed that the prevalence among adults of all thyroid and parathyroid disease, disabling and nondisabling, was 0.8%. The prevalence of thyroid disease that caused one week or more of disability during the study year was 0.06%. Certainly, clinical hyperthyroidism would fall closer to the latter category than to the former.

Hospital statistics indicate a similar order of magnitude for the incidence of hyperthyroidism. Rogers and others [5] reported that 0.24% of 544,000 patients admitted at the Boston City Hospital, Massachusetts Gen-

From the Department of Internal Medicine, Yale University School of Medicine. Dr. Sokal is a Markle Scholar in the Medical Sciences.

1. (a) Cole, W. H.; Majarakis, J. D., and Slaughter, D. P.: Incidence of Carcinoma of the Thyroid in Nodular Goiter, J. Clin. Endocrinol. **9**: 1007-1011, 1949. (b) Lahey, F. H., and Hare, H. F.: Malignancy in Adenomas of the Thyroid, J. A. M. A. **145**: 689-695 (March 10) 1951.
2. Brahrs, O. H.; Pemberton, J. deJ., and Black, B. M.: Nodular Goiter and Malignant Lesions of the Thyroid Gland, J. Clin. Endocrinol. **11**: 1157-1165, 1951.
3. Ward, R.: Symposium on Surgical Lesions of Thyroid: Malignant Goiter, Surgery **16**: 783-803, 1944.
4. Crile, G., Jr., and Dempsey, W. S.: Indications for Removal of Nontoxic Nodular Goiters, J. A. M. A. **139**: 1247-1251 (April 30) 1949.
5. Rogers, W. F., Jr.; Asper, S. P., Jr., and Williams, R. H.: Clinical Significance of Malignant Neoplasms of the Thyroid Gland, New England J. Med. **237**: 569-576, 1947.

eral Hospital, and Johns Hopkins Hospital were operated on for toxic goiter. At the Michael Reese Hospital, Chicago, there were 1,437 such surgical cases in an 18 year period.[6] These cases would represent about 0.5% of admissions to that institution. Obviously, these figures have to be corrected upward to cover admissions of hyperthyroid patients who did not have surgery. At the New Haven Hospital, hyperthyroidism was noted in 0.37% of 220,000 patients admitted in the 20 years from 1932 through 1951. This includes cases in which operations were not done.

TABLE 1.—*Association of Thyroid Cancer and Hyperthyroidism*

Institution	Period	Thyroid Cancer: Total Cases	Thyroid Cancer: Hyperthyroid
Mayo Clinic: Beahrs and others [2]; Friedell, M. T.: Arch. Surg. **43**: 286-296 (Sept.) 1941	1917-1947	696	97
Cleveland Clinic: Crile, G., Jr.: Surg., Gynec. & Obst. **62**: 966-969, 1936	Prior to 1936	249	2
Lahey Clinic: Hare, H. F., and Saloman, F. A.: Am. J. Roentgenol. **63**: 861-866, 1950	Prior to 1936	158	16
Johns Hopkins Hospital: Ward, G. E.; Hendrick, J. W., and Chambers, R. G.: Ann. Surg. **131**: 473-493, 1950	.....	112	24
Yale University School of Medicine	1923-1953	72	5
Boston City Hospital	1931-1942	64	5
Johns Hopkins Hospital: Rogers and others [5]	1940-1944		
Massachusetts General Hospital	1937-1944		
University of Pennsylvania Hospital: Horn, R. C., Jr., and others: Ann. Surg. **126**: 140-155, 1947	1933-1944	92	2
Illinois Research Hospital: Cole and others [14]	1935-1948	54	5
Aggregate of smaller series	.....	290	18
Totals	.....	1,803	174
Percentage of thyroid cancers associated with hyperthyroidism	.....		9.6

Statistics based on patients, rather than admissions, would be more meaningful than the hospital data presented above. Exact figures are not available, but about 1,000 patients with hyperthyroidism have been seen at the New Haven Hospital during the past 30 years out of somewhat over 400,000 persons registered as inpatients or outpatients in this period. It will be noted that inclusion of outpatients results in an appreciable decrease in the frequency of hyperthyroidism. Almost certainly a further reduction would be noted if the entire community were included; it is inconceivable that hyperthyroidism should be equally frequent among persons whose cases never appear in hospital files.

It appears reasonable to conclude that the prevalence of hyperthyroidism in the United States can be no more than 0.5% of the adult population and is probably significantly less—perhaps in the neighborhood of 0.2%.

Various medical centers in this country have listed the association of thyroid cancer and hyperthyroidism (table 1). The table includes all series encountered in the literature that give such information with one exception, which will be considered below. It is seen that 9.6% of thyroid cancers were found in hyperthyroid persons; however, such persons constitute perhaps 0.2% and certainly no more than 0.5% of the population. It is quite evident that thyroid cancer is much commoner among hyperthyroid than among euthyroid persons. The difference in incidence must be at least twentyfold.

Thyroid nodules are premalignant lesions. We must consider whether the increased incidence of cancer in hyperthyroidism can be accounted for by the higher incidence of nodular goiter in that disease. One-third of toxic goiters in a series studied were nodular (table 2). This is four times the incidence of nodular goiter in an autopsy series in Boston,[7] one and one-half times the incidence in Chicago, and two-thirds the incidence in Minneapolis. Such autopsy studies probably yield somewhat exaggerated figures for the frequency of thyroid nodules. However, even if this is taken into account, it is apparent that the difference in the incidence of nodules is not great enough to account for all the difference in cancer incidence between hyperthyroid and euthyroid persons.

Finally, the series reported by Coller [8] may be considered. This material was derived from a study of an intensely goitrous population with an 80% incidence of adenomatous goiters, 15% of which were of the exophthalmic type (autopsy data). In this population nodular thyroids must have been about as common among euthyroid as among hyperthyroid persons. Yet almost half of the thyroid cancer was associated with hyperthyroidism, indicating again that cancer is much more likely to occur in a hyperactive gland, other factors being equal.

Data have been collected on the reported incidence of malignancy in toxic goiter (table 3). Cancer was found in 0.94% of nodular toxic goiters and in 0.15% of the diffusely hyperplastic thyroid glands. From the data in tables 2 and 3, we may construct a hypothetical population with toxic goiter. Of 20,000 hyperthyroid patients, 7,200 would have nodular thyroid glands. Of these, 68 would have cancers. Among the 12,800 diffusely hyperplastic glands, there would be 19 cancers. There would be a total of 87 cancers in this group of 20,000 patients.

TABLE 2.—*Frequency of Nodular Goiter in Hyperthyroidism*

Institution	Period	Surgical Specimens: Nodular	Surgical Specimens: Diffuse
Mayo Clinic: Beahrs and others [2]	1928-1947	2,229	3,029
Michael Reese Hospital: Zimmerman and others [6]	1930-1948	714	723
Boston City Hospital	1931-1942	377	907
Johns Hopkins Hospital: Rogers and others [5]	1940-1944		
Massachusetts General Hospital	1937-1944		
University of Pennsylvania Hospital: Horn, R. C., Jr., and others: Ann. Surg. **126**: 140-155, 1947	1933-1944	279	923
Mercy Hospital and University of Pittsburgh: Fisher, E. R., and Fisher, B.: Am. J. Surg. **82**: 202-208, 1951	1933-1949	266	881
Aggregate of smaller series	.....	677	1,093
Totals	.....	4,484 (36%)	8,126 (64%)

6. Zimmerman, L. M.; Wagner, D. H.; Perlmutter, H. M., and Antromin, G. D.: Benign and Malignant Epithelial Tumors of the Thyroid Gland, Arch. Surg. **60**: 1183-1198 (June) 1950.

7. Schlesinger, M. J.; Gargill, S. L., and Saxe, I. H.: Studies in Nodular Goiter: Incidence of Thyroid Nodules in Routine Necropsies in a Nongoitrous Region, J. A. M. A. **110**: 1638-1641 (May 14) 1938.

8. Coller, F. A.: Adenoma and Cancer of the Thyroid: A Study of Their Relation in 90 Primary Epithelial Neoplasms of the Thyroid, J. A. M. A. **92**: 457-462 (Feb. 9) 1929.

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EXTRAPOLATION TO NONTOXIC GOITER

From the data presented above, it is possible to make certain extrapolations to nontoxic goiter and to draw some conclusions regarding the frequency of thyroid cancer in the euthyroid population. Since thyroid cancer is at least 20 times as common among hyperthyroid as among euthyroid persons, it follows that, if the thyroid glands of 20,000 euthyroid adults were extirpated and examined microscopically, no more than four cancers would be found. The bulk of thyroid cancer arises in preexistent nodular goiter. In some series, three-fourths of cancers developed in this way. We may therefore assign three of the four cancers in this euthyroid population to those persons with thyroid nodules, leaving one cancer for the nongoitrous or diffusely enlarged glands.

Now we must estimate how many persons in our population have nodular thyroid glands. It is generally agreed that thyroid nodules are quite common, especially among older persons, even in nongoitrous areas of the country.

TABLE 3.—*Incidence of Malignancy in Toxic Goiter*

Institution	Period	Surgical Specimens: Nodular Goiter: Total	Nodular Goiter: Malignant	Diffuse Goiter: Total	Diffuse Goiter: Malignant
Mayo Clinic: Beahrs and others [2]	1938-1947	2,239	26	3,029	14
Mayo Clinic: Herbst, W. P., Jr.: Ann. Surg. **79**: 488-494, 1924	1901-1921	.....	..	5,867	0
University of California Hospital: Ward [3]	Through 1943	.....	..	1,900	1
Boston City Hospital....	1931-1942				
Johns Hopkins Hospital: Rogers and others [5]	1940-1944	377	8	967	2
Massachusetts General Hospital	1937-1944				
Mercy Hospital and University of Pittsburgh: Fisher, E. R., and Fisher, B.: Am. J. Surg. **82**: 295-298, 1951	1933-1949	208	4	881	0
Lahey Clinic: Lahey and Hare [15]	.....	1,175	7	.....	..
Illinois Research Hospital: Cole and others [16]	1939-1948	378	4	517	1
Aggregate of smaller series	.....	644	3	267	3
Totals.....	.....	5,011	47	13,868	21
Percentage of malignant goiters.....		0.94		0.15	

The most conservative figures for the incidence of thyroid nodules are those of Schlesinger and others,[8] based on autopsy material in Boston. Crude age and sex standardization of their data indicates that about 8% of an adult population may be expected to have palpable thyroid nodules. That is, 1,600 of our hypothetical population will have nodular goiter. Three cancers (at most) will be found among these persons. One cancer will be found among the 18,400 who have no goiter or diffuse goiter. The results of the above calculations for both the hyperthyroid and the euthyroid populations have been summarized (table 4). These figures indicate that histological examination of randomly selected nontoxic nodular goiters would show cancer in no more than 0.2% of the goiters.

INCIDENCE OF THYROID CANCER AND OF NODULAR GOITER

Another estimate of the incidence of malignancy in nodular goiter may be reached through a comparison of the frequency of the two conditions. The simplest (and probably the most meaningful) way to make the calculation is in terms of the total hazard to a person with an average life span. This differs from the approach in the preceding sections, which dealt with findings and probabilities at a single arbitrarily selected time in a patient's life.

Thyroid cancer is two to three times commoner among women than men. However, since the incidence of thyroid nodules is also two to three times greater among

TABLE 4.—*Possible Incidence of Thyroid Cancer Among Randomly Selected Persons*[a]

Group	Nodular Goiter	Malignant	Diffuse Goiter or No Goiter	Malignant	Total No. of Cancers
20,000 hyperthyroid patients	7,200	68	12,800	19	87
20,000 euthyroid adults	1,600	3	18,400	1	4

[a] Based on hypothetical population samples.

women,[9] the risk of cancer per patient with nodular goiter will be essentially the same, and both sexes may be considered together. A conservative estimate of the number of persons likely to have thyroid nodules at some time in their lives may be made by using the data of Schlesinger and others for patients over 40. This gives a figure of slightly over 10%.

Cancer of the thyroid represents 0.5% of clinical cancer.[9] In about 20% of persons, cancer develops at some time before death. Therefore, in about 0.1% of the population, or one person in a thousand, thyroid cancer will develop at some time during life. Not all thyroid cancer arises in preexistent nodules. So, in less than one person per thousand will cancer develop in a nodular goiter; however, over 100 persons will have thyroid nodules at some time. Therefore, the cumulative lifetime risk of cancer developing in a thyroid nodule must be less than 1%. These data have been presented in more detail, with the probabilities calculated for 10,000 patient lives (table 5).

CRITERIA

The papers reviewed here constitute a major fraction of the pertinent American literature. I have tried particularly to include all of the larger series reported during the past 25 years. This is in no sense a complete review of the subject, however. Undoubtedly, some important papers have been missed; I hope that not too many have

TABLE 5.—*Cumulative Lifetime Risk of Goiter and of Thyroid Cancer in 10,000 Patient Lives*

Event	Probability: Patients	Probability: Percent
Thyroid cancer developing at some time.....	11	0.11
Thyroid cancer arising in nodular goiter.....	8	0.08
Nodular goiter developing at some time.....	1,000	10.00
Risk of cancer developing in a nodular goiter...	8/1,000	0.80

been overlooked. The statistics reviewed are obviously inhomogeneous. They reflect experience in different areas of the United States during decades that saw changes in the diagnostic and therapeutic approaches to thyroid disease and in the clinical material seen. Criteria for the diagnosis of cancer and of hyperthyroidism undoubtedly differed among the various institutions represented and during the different years covered by this survey.

9. Sokal, J. E.: Occurrence of Thyroid Cancer, New England J. Med. **249**: 393-397, 1953.

A reviewer cannot impose his standards upon the authors whose work he considers. He may, of course, exclude reports that do not meet criteria that he establishes. Such a course, however, is associated with the serious danger that material may be favored that tends to prove what the reviewer believes. Furthermore, the reader of such a review has no way of knowing just how much censorship has been practiced. The alternative approach, followed in this study, is to include all reports that bear on the subject under consideration. When this is done, inhomogeneity and some degree of inconsistency become inevitable.

The criterion used in this paper for the diagnosis of cancer, of hyperthyroidism, and of nodular goiter is that such diagnoses were made by presumably competent physicians. Most of the authors cited did not indicate their criteria for the diagnosis of hyperthyroidism, and many did not do so for the diagnosis of cancer. Almost certainly, thyroids were called toxic, or cancerous, by some authors when these thyroids would not be accepted as such by others or by me. How much of the inhomogeneity was due to the differences in diagnosis and how much was due to geographical variation, I cannot say. In any case, speculation over the differences between data from such centers as the Mayo Clinic and the Cleveland Clinic, for example, does not appear relevant to the main purpose of this study. It is emphasized that the material considered here represents the published experience of men from some of the leading medical centers in this country. If errors have been made in histological interpretation, they are such errors as would be made by better than average pathologists. If patients have erroneously been considered hyperthyroid, they have been considered so by some of the better American clinicians. The aggregate of the data presented here should approximate what was seen, or what was thought to be seen, by competent physicians at better than average institutions during the second quarter of this century.

In the various calculations above, I tried to give the benefit of every doubt to the proposition that has been disproved: that cancer is common in nontoxic nodular goiter. Thus, a high figure for the incidence of hyperthyroidism was used, the lowest published figures for the frequency of nodular goiter were accepted, and it was assumed that at least three-fourths of thyroid cancer arose from preexistent nodular goiter. These calculations, therefore, yielded a figure that should represent not the probable but the maximum possible incidence of malignancy in nontoxic goiter. Probably the weakest element in the calculations is the estimate for the incidence of nodular goiter in the American population. Although the lowest available figure was used, it may still be too high. The autopsy statistics on thyroid nodules are open to the same type of criticism as the surgical statistics are; the sample examined is not representative of the total population. The thyroid gland is not examined in all autopsies. It is more likely to be examined in the presence of goiter than in its absence. Therefore, autopsy data may suggest too high an incidence of thyroid nodules. On the other hand, the figures given by Schlesinger and others are too low in some ways. Their material comes from one of the least goitrous areas of the United States. Schlesinger and his associates excluded nodules smaller than 1 cm. and nodules whose size was not stated. All in all, it is likely that their figures, if too high, are not very much so and that any resultant error is more than compensated by the weighting of these calculations in the opposite direction throughout.

KNOWN CASES OF THYROID CANCER

A check on the calculations in this paper may be obtained by comparing the indicated frequency of thyroid cancer with the known prevalence of the disease. (Equal figures should not be expected in such a comparison, since the incidence suggested in table 4 includes occult, as well as diagnosed, cancer. It is quite possible, in view of the slow growth and relatively benign course of many thyroid cancers, that the occult malignancies may represent a very significant fraction of the total.) There are at any time about 25 cases of diagnosed thyroid cancer per million of population.[9] In an essentially adult group with a preponderance of females, such as is represented in the surgical series reviewed in this paper, there would be two or three times as many, or 50 to 75 per million. However, the figures in table 4 suggest that examination of a million such thyroid glands might reveal 220 cancers. It is apparent that those figures are generous, even if it be assumed that there are one or two unrecognized cancers for each one diagnosed. Thus the objective of arriving at a high estimate for the incidence of cancer in nontoxic goiter has indeed been achieved.

The conclusion that cancer is commoner in toxic than in nontoxic goiter makes much more sense theoretically than the opposite hypothesis, which was accepted by many. We know that neoplasia often follows hyperplasia, but it is difficult to understand how hyperthyroidism could protect against cancer! The only significant discrepancy in this regard is in the data from the Cleveland Clinic, which indicate a much lower association of thyroid cancer and hyperthyroidism than the average given in table 1. As has been stated above, discussion of such inconsistencies is beyond the scope of this paper. It is known, however, that the material from the Cleveland Clinic contained a relatively large proportion of advanced cancers. In some such cases, as will be illustrated below, almost all thyroid tissue may be replaced by tumor. It is quite possible that such functional thyroidectomy may have taken place in some patients who originally had toxic goiter, and that these patients were classified as euthyroid or hypothyroid at the time that the diagnosis of cancer was made. Such a phenomenon, occurring in a presumably euthyroid person, is described by McSwain and Diveley.[10] Their patient was found to be hypothyroid, with a basal metabolic rate of −32%, before the diagnosis of cancer was established.

The statement that fewer than 0.2% of nontoxic nodular goiters are cancerous will seem strange to readers accustomed to estimates for this incidence ranging

10. McSwain, B., and Diveley, W.: Malignant Tumors of the Thyroid Gland, Surgery 23:525-541, 1948.

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from 4 to 17%. The former statement is consistent with all available data on the frequency of nodular goiter and thyroid cancer, while the latter figures most certainly are not. For example, goiter is common in the Chicago area. There may be 300,000 or more persons with nodular goiter in that city. One of the leading thyroid surgeons in Chicago reported a 17% incidence of carcinoma in nontoxic nodular goiter.[1a] This figure, applied to the city as a whole, would indicate the presence of perhaps 50,000 thyroid cancers. Yet, this internationally known authority saw fewer than five cases per year during a 12 year period! At another well-known institution, one of the largest general hospitals in Chicago, only three cases per year were seen over an 18 year period.[4] Similar figures are reported from many other hospitals. It is obvious that thyroid cancer is much too rare a disease to make tenable even the lowest incidence cited in surgical reports on nodular goiter.

SELECTION OF CASES

The fact that some clinics report a high incidence of cancer in their surgical experience proves that a good deal of preoperative selection is taking place, and not that nodular goiter is a dangerous disease. This was pointed out a generation ago by Coller, who wrote:

> The ratio of carcinoma to goiters removed varies with the clinic from 1.2 to 4.6 per cent, but this gives an exaggerated idea of the dangers of the adenoma as a precancerous lesion. As Balfour pointed out, patients with cancer of the thyroid eventually seek surgical aid, while the majority of persons with adenomatous goiters are not operated on. The true incidence of carcinoma in adenoma cannot be stated, but it would be very much less than any figures we have at present. The adenoma is a precancerous lesion but the true incidence is so small that it should not be a great cause for anxiety to the person with an adenomatous goiter. . . .

The statement has been made that nodular goiter is more dangerous in men than in women.[3] When the evidence for this is examined, it is apparent that this conclusion, too, is drawn from the study of unrepresentative samples and is not valid. As has been pointed out above, the risk of developing cancer in a nodular goiter is about the same for the two sexes. However, most surgical series contain a disproportionate number of women. In some, 10 times as many women as men had nontoxic goiters removed.[3] The cancers found were distributed in the usual ratio, which resulted in a higher percentage of cancer being noted among the male patients. This proves not that goiter is more dangerous in men but that women are more likely to have operations for benign lesions for cosmetic or other reasons.

No distinction has been made in this paper between uninodular and multinodular glands, for two reasons. First, not enough statistical data would have been available for such analysis, since the great majority of the material cited was not classified on that basis. Second, many reports indicate that clinical differentiation between uninodular and multinodular glands is subject to very great error. The Mayo Clinic has had the most experience with thyroid cancer in this country, since over 1,000 cases have been treated here. At that institution the attempt to distinguish uninodular from multinodular glands preoperatively has been abandoned.[2]

Theoretically, it seems unlikely that cancer would develop more frequently in uninodular than in multinodular glands. If one thyroid nodule is a precancerous lesion, it is difficult to see why two nodules should not be two precancerous lesions. Of course, cancer usually grows as a single mass. A carcinoma might well arise in a multinodular gland and in the course of its growth destroy other nodules as it involves more and more of the thyroid. Such a lesion, when finally extirpated, might well be classified as uninodular. A surgical series containing many advanced cancers might thus give the impression that single nodules were the more dangerous. The following case furnishes an excellent example of the changes in nodularity that may take place over a period of years.

REPORT OF CASE

A white Italian-born laborer gave a history of goiter since age 35. He was first seen at the New Haven Hospital in 1927, when he was 49, for gastrointestinal complaints. Moderate enlargement of the right lobe of the thyroid was noted at this time, and two firm nodules were described: one, 2 cm. in diameter, at the junction of the right lobe and isthmus, and the second, very small, in the left lobe. At a clinic visit in 1931, essentially the same findings were noted. In 1938, this patient was examined by several experienced physicians and presented at a tumor conference. The goiter had increased in size. All observers agreed that there were several firm to hard nodules palpable. All but one of the nodules was in the right lobe. The clinical impression at this time was benign multinodular nontoxic goiter. The patient refused thyroidectomy. He was next seen in 1940, after several weeks of more rapid growth of the goiter and after the appearance of nodes on both sides of the neck. The right lobe of the thyroid was noted to measure 9 by 9 cm. and the left lobe 4 by 4 cm. No nodules were described. There was extension behind the sternocleidomastoid and into the mediastinum. The impression was that the patient had carcinoma. A lobectomy was performed on the right side. The surgical specimen weighed 180 gm. and was described as a well-encapsulated ovoid mass of uniform consistency throughout. There were no nodules. On microscopic examination the thyroid was found to be completely replaced by carcinoma, except in one small ridge on the outside of the gland.

SUMMARY AND CONCLUSIONS

Thyroid cancer arises more frequently in toxic than in nontoxic goiter. The risk of cancer is small in all types of goiter. About 1% of toxic nodular goiters are malignant. The incidence of cancer among unselected nontoxic nodular goiters is probably less than 0.2%. The cumulative lifetime risk of cancer for a patient with nontoxic nodular goiter is probably less than 1%. The risk in diffuse goiter is even lower. The risk of cancer in nodular goiter is approximately the same for women as for men. Cancers that develop in multinodular glands may destroy nodules in the course of their growth, with the result that the goiters may be classified as uninodular, or even diffuse, by the time thyroidectomy is performed. No valid evidence has been encountered in the literature that will justify the classification of apparently benign goiters as dangerous because they appear to contain single nodules.

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FUNDAMENTALS OF SURGERY IN CONTAMINATED AND INFECTED WOUNDS

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The basic objectives of wound management are to prevent or cut short infection in contaminated wounds, to eliminate the septic process in already infected and suppurating wounds, and, in each, to obtain sound healing. Surgical treatment of such wounds is designed to achieve these objectives with a maximum preservation of tissue, a minimum of scar, and a maximum return of function of the part in a minimum of time. Wound infection may be classified on a clinical basis as invasive infection, wound suppuration, or surface infection.

Invasive infection is characterized by bacterial invasion and destruction of living tissue. Typical examples are hemolytic streptococcic infections and true gas gangrene. In anaerobic invasive infection, bacteria such as Clostridia, capable of causing gas gangrene, or hemolytic cocci in symbiosis with facultative anaerobes, take hold in devitalized tissue and then proceed to invade and kill living tissue. Even aerobic invasive infection is more likely to develop in a wound containing dead tissue. Wound suppuration is a localized suppurative process. Bacteria perhaps incapable of producing invasive infection cause septic decomposition into pus of dead and devitalized tissue, including blood clots in dead space, which has remained in the wound or developed there from prolonged exposure. This is the usual post-traumatic or postoperative infection and is by far the commonest type of wound infection. Surface infection is also a localized suppurative process caused by bacteria perhaps incapable of producing invasive infection. The bacteria act upon wound exudate from the raw surfaces of open wounds, granulating surfaces, and burns. Needless to say, both invasive infection and deep or surface wound suppuration can be present in the same wound, and one predisposes the wound to the other. For the purpose of this discussion, they are considered separately. It is worthy of note that invasive infection is life-endangering; wound suppuration of itself is not, but it may vastly increase morbidity and permanent disability.

A clear understanding of the basic pathology of all septic wounds is essential. The precursor of each type of infection is dead tissue, including blood clots in dead space and even wound exudate. By bacterial action the dead tissue is decomposed into pus. The pus gravitates into all of the crevices of the wound and bathes all of the tissues with which it comes in contact. Proteolytic enzymes in this pus gradually necrotize living tissue, thereby creating additional devitalized tissue, which, in turn, decomposes into more pus. Thus a vicious circle is established of persisting suppuration and continuing necrosis of living tissues. To prevent or eliminate wound suppuration and achieve healing, the wound must be freed of dead and devitalized tissue by débridement; it must be closed by suture or skin graft at the proper time, to prevent accumulation of wound exudate and also to protect certain tissues that will die if they remain exposed; and its bacterial flora must be inactivated with antibiotic agents.

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WOUND DÉBRIDEMENT

Débridement in American surgery has come to mean the removal of dead and devitalized tissue. It is of interest that the French, from whom we adopted the term débridement, use it only to mean an incision. They follow "débridement" with "excision." This becomes significant when it is realized that too often wound débridement in the United States is limited to an incision, and often that is too short. Actually, débridement of a wound may take place by four methods: chemical, enzymatic, spontaneous or biological, and surgical.

Chemical Débridement.—Chemical débridement is that in which chemical agents such as sodium hypochlorite (Dakin's solution) or dichloramine T are used to digest nonviable tissue. Whenever a wound infection clears with this therapy, it does so because of the débriding action of the chemical plus spontaneous biological débridement and not because of any alleged sterilizing action of the chemical agent. Chemical débridement is a poor method, and it is not recommended. A chemical capable of digesting dead tissue is itself injurious to living tissue. The method is slow and permits massive suppuration with its dire consequences. It requires considerable "wound fiddling" and, while it is being employed, actually prevents closure of the wound.

Enzymatic Débridement.—In enzymatic débridement devitalized tissues are digested by enzymes. Again, any improvement in appearance of the wound results from removal of devitalized tissue both spontaneously and by enzymatic digestion, and not from control of bacterial action. Enzymatic débridement is probably of benefit in some cases. In certain wounds in which further surgical débridement seems impracticable, residual bits of dead tissue may be slowly eliminated by this means. It might be helpful in the preparation of an old wound for skin grafting. This method is sometimes used when surgical débridement would be highly preferable; moreover, one wonders if spontaneous débridement does not largely account for any improvement in the appearance of wounds treated by enzymatic agents.

Spontaneous or Biological Débridement.—Nature eliminates dead tissue in a wound by spontaneous or biological débridement. Dead tissue in the body spontaneously becomes separated from living tissue. If bacteria are absent, as in a clean sutured operative wound, the dead tissue is slowly phagocytized and absorbed. In an open wound, however, proteolytic bacteria capable of decomposing dead protein are usually present, and by their action the dead tissue is broken down into pus. In this way, a wound may be self-débrided, so to speak, and

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eventually become a clean, healthy granulating wound. This is particularly true if the wound is well drained so that pus does not remain long in contact with living tissues. Muscle tissue and granulation tissue seem to resist the action of proteolytic enzymes in pus, and therefore many well-drained wounds heal spontaneously, although probably not without prolonged morbidity and massive scar formation. A wound infection does not always clear up spontaneously, however, because dead bone, cartilage, fascia, and tendon often become separated from the living tissue more slowly than additional collagenous tissues die, so that suppuration persists.

Surgical Débridement.—Surgical débridement is the scientific way to prevent or eliminate wound suppuration and its hazards, although, as will be discussed below, it must be supplemented by wound closure at the proper time. When all dead and devitalized tissue has been excised, provided no more is created or allowed to develop, nothing remains to suppurate. Bacteria capable only of breaking down dead tissue into pus are of no consequence. Only those that can cause invasive infection of living tissues without the catalyzing benefit of nonviable tissue need be considered, and, to control them, antibiotics are available.

WOUND CLOSURE

Wound closure is an essential supplement to adequate wound débridement. An open wound is mandatory as long as it contains contaminated nonviable tissue. Once this has been eliminated, wound suppuration will not occur, but surface infection will develop unless wound closure and healing are achieved. Wound closure may be accomplished by primary suture immediately after débridement, delayed suture four to seven days later, or secondary suture still later. The last usually requires further wound excision. All of these methods depend on several things. Adequate preliminary débridement is the prime requisite. Enough skin must be available to permit closure without excessive tension, which would lead to tissue necrosis and in turn to wound suppuration. Dead space, in which blood clots or wound exudate can pool and lead to suppuration, must be obliterated by the approximation of tissue or by pressure dressings, or it must be dependently drained for a few days. If these conditions cannot be met, closure by suture usually must give way to closure by skin grafting or, rarely, to the acceptance of healing by granulation. The principle is the same, whether the wound is closed by suture or skin graft. Skin coverage is essential to avoid accumulation of wound exudate and surface infections. Moreover, as mentioned previously, the collagenous tissues, articular cartilage, tendon, fascia, and cortex of bone cannot survive if they remain exposed. They will die and undergo proteolytic digestion into pus; wound suppuration is then present, and surgical wound closure is out of the question. Closure of the wound will prevent such tissues from becoming necrotic and will thereby contribute materially toward the basic objectives of wound management.

ANTIBIOTIC THERAPY

Antibiotics serve one major purpose: the prevention of invasive infection of living tissue, and they are used systemically for this purpose. Whether used systemically or locally, they will not prevent the septic breakdown of devitalized tissue, and therefore they will not prevent wound suppuration or surface infection. They will not neutralize the proteolytic enzymes in pus, and therefore they will not prevent the proteolytic destruction of collagenous tissues. They are not a substitute for adequate surgical débridement of a wound that is either contaminated or already septic.

SURGICAL PROCEDURE

Thorough surgical débridement almost always requires general anesthesia. Liberal extensions of the wound, in axes that favor closure by suture later, provide exposure of wound depths. Fascia may be extensively split. Dead and devitalized tissue is then excised. Excision of skin is held to a minimum. Crushed fat and fascia may be freely removed. Excision of devitalized muscle tissue is the most crucial part of the procedure, as dead muscle remaining in a wound is the forerunner of the most serious wound infections. Muscle is trimmed back until it bleeds freely, which is the most reliable sign of vitality. Contractility is an excellent although not essential sign of vitality. Hemostasis by ligature and by gauze compression applied manually against the bleeding surfaces is an essential part of wound débridement.

Primary closure is usually selected for well-débrided contaminated wounds. The advantages are obvious. It will be employed in the majority of wounds seen reasonably early; however, the time lag after wounding is actually of little consequence except as its prolongation permits wound suppuration to become established so that the wound is septic rather than merely contaminated. Delayed closure a few days after débridement may be a most valuable procedure, and this established plan of military surgery deserves a wider application in civilian surgery. It is particularly indicated after débridement of obviously septic wounds. Four or five days of open wound drainage obviates the enclosure of a hematoma under a bridge of sutured skin, permits a means of egress for residual bits of devitalized tissue overlooked or created at débridement, and, of real significance, permits a reappraisal of the adequacy of that initial procedure. A wound that is clinically clean four or five days after débridement is the best evidence that that operation was complete. Secondary closure must be selected, of course, after wound margins and depths are fixed by granulation tissue. In such instances, surgical limitations require that the wound be excised again, which in effect is a redébridement. In such delayed wound surgery, closure often is postponed for a few days after excision to gain the advantages of delayed closure outlined above.

An aggressive surgical approach to obviously septic wounds is established by the application of these principles and concepts. The pus and debris are recognized as coming from dead and devitalized tissue. Under adequate antibiotic protection against invasive infection, such wounds should be surgically débrided with the patient under general anesthesia and prepared for closure by either suture or skin graft a few days later. In this way, further destruction of the collagenous tissues in the wound is avoided. The concept that a draining

septic wound should not be touched is antiquated and fallacious. Wound suppuration is a definite indication for surgery.

SUMMARY

Every open wound needs and deserves surgery. Either it is ready for closure by suture or skin graft or it needs débridement to prevent or eliminate sepsis and the destruction of living tissue and to prepare it for closure. The spotlight should fall on the pathological process in an open wound rather than on its bacterial flora. Dead tissue should be excised whenever and wherever it is found; dead space must be obliterated or dependently drained. Atraumatic technique with fine hemostats and ligatures is advisable, and pressure dressings and precise splinting are valuable adjuncts. Antibiotic therapy is often indicated as a safeguard against invasive infection. Wound healing is a natural cellular process provided the wound does not contain dead tissue, strangulating ligatures, or foreign bodies. Adequate surgery will eliminate or prevent these and promote early healing of a wound, thereby achieving the objectives of wound management.

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MANAGEMENT WITH PROCAINE AMIDE (PRONESTYL) OF PYLOROSPASM IN INFANTS

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Procaine amide (Pronestyl) was synthesized in 1949 in the course of a search for a drug similar in action to procaine. It was desirable that the drug be longer acting and cause less nervous system stimulation and less vasomotor depression. Procaine amide was found to have these advantages. The published data described its use in the treatment of cardiac irregularities, principally ventricular arrhythmias.[1] One of us (M. S. S.) has been making clinical studies of procaine and procaine amide given orally in the treatment of such conditions as arthritis, causalgia, vasospasm, pruritis, pain, and hiccup. Because of the advantages of procaine amide listed above, it was substituted for procaine in these studies of oral administration. It occurred to us that procaine amide administered orally should be given a clinical trial in spastic and related conditions of the upper alimentary tract instead of procaine, which was used in the studies reported by Roka and Lajtha.[2] The following cases provided the opportunity of testing this form of treatment and are therefore reported in detail.

CASE REPORTS

Case 1.—An infant girl, weighing 5 lb. 9 oz. (2,523.1 gm.) at birth, was delivered after a normal pregnancy. On the sixth day of life she was transferred from another institution to Mercy Hospital, because she had vomited all feedings since birth. The vomiting occurred 20 minutes after feedings and contained undigested milk. Physical examination was normal. A roentgenogram of the abdomen and a barium enema were uninformative. After a barium meal, films taken immediately and after four hours disclosed complete pyloric obstruction. Atropine methyl nitrate, 1 minim (0.062 cc.) of a 1:1,000 solution, was given every four hours during this period. Because of the diagnosis of a relatively complete pyloric obstruction, surgical exploration was suggested. With some reluctance because of the age at which vomiting began and the absence of both peristaltic waves and palpable tumor, an exploration was done. No tumor mass was found, but the seromuscular layer was split as in pyloromyotomy. The operative diagnosis was pylorospasm. Small feedings begun eight hours after surgery were promptly vomited. Vomiting persisted until the eighth postoperative day, despite antispasmodic therapy that included atropine methyl nitrate, atropine, and sedatives. Roentgenography again disclosed complete pyloric obstruction. At this time 2.5 cc. of an aqueous solution of procaine amide containing 15 mg. of the drug was given orally at two hour intervals. After the fourth dose of procaine amide, 0.5 oz. (15 cc.) of formula was retained. The infant retained 10 oz. (300 cc.) of formula in the next 24 hours and did not vomit thereafter. The original dosage of procaine amide was continued until the 11th postoperative day, when the interval between doses was changed from two hours to three hours. The same dosage of procaine amide was given every three hours until the patient was dismissed on the 21st postoperative day. At this time, the infant weighed the same as when she was born. There have been no feeding difficulties since.

Comment.—This newborn infant had persistent vomiting, gastric retention, no relief from surgical intervention, and an operative diagnosis of pylorospasm. Prompt improvement followed the oral administration of procaine amide. We were forced to conclude that therapy with procaine amide was responsible for the improvement, as we were unable to account for it on any other basis. Similar responses in the following cases lend credence to this conclusion as do the results in a series of adults with pylorospasm to be reported separately at a later date.

Case 2.—A 6 lb. 4 oz. (2,834.9 gm.) boy was delivered at term by cesarean section because of a cephalopelvic disproportion. The hospital stay was uneventful. The child was given 3 oz. (90 cc.) of formula every three hours. All feedings were retained until the third week of life when the infant began projectile vomiting of a major portion of each feeding. When 38 days old, he was admitted to Mercy Hospital in a state of moderate dehydration, weighing 5 lb. 14 oz. (2,664.8 gm.). Physical examination revealed no palpable tumor mass or peristaltic waves. Examination of roentgenograms taken after a barium meal did not reveal any evidence of obstruction or re-

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The procaine amide (Pronestyl) for this study was supplied by Dr. L. Wright of E. R. Squibb & Company, New York 22.

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tention. Mixtures of tincture of belladonna, elixir of phenobarbital, and Kaopectate (a carminative, each 30 cc. of which contains 90 grains [5.8 gm.] of kaolin and 2 grains [0.1 gm.] of pectin) of varying dosages were given. He continued vomiting four to six of the eight daily 3 oz. (90 cc.) feedings until the 14th hospital day. Hydration was maintained by the parenteral administration of fluids during this period. On the 15th hospital day, 2.5 cc. of an aqueous solution of procaine amide containing 15 mg. of the drug was administered every four hours immediately before feedings. After the fifth dose of procaine amide, all feedings were retained, and in the next 24 hours 13.5 oz. (202.5 cc.) of formula were retained. Therapy with the drug was discontinued, and within 36 hours portions of the feedings were regurgitated. Procaine amide was again given every six hours, and after four doses the regurgitation stopped. The infant was discharged on the 38th hospital day weighing 6 lb. 15 oz. (3,146.8 gm.), retaining all feedings and receiving procaine amide, 15 mg. every six hours. After several weeks during which the infant gained weight, therapy with procaine amide was discontinued.

Comment.—The onset of vomiting at the age of 3 weeks suggests hypertrophic pyloric stenosis. The absence of peristaltic waves, the fact that there was no palpable mass, and the normal gastric emptying prompted the diagnosis of pylorospasm. The response to procaine amide is well demonstrated.

CASE 3.—A 7 lb. 10 oz. (3,458.6 gm.) girl was born after a normal pregnancy. Three ounces (90 cc.) of formula every four hours was prescribed, but vomiting of a significant amount of each feeding occurred from birth. After 42 days, the infant weighed 1 oz. (28.35 gm.) more than her birth weight and hospitalization was advised. There were no peristaltic waves and no palpable tumor. Examination of roentgenograms after a barium meal disclosed no evidence of organic pyloric obstruction, and a diagnosis of pylorospasm was made. The formula was changed; 1/16 grain (4 mg.) of phenobarbital and 5 minims (0.308 cc.) of a 1:1,000 solution of atropine methyl nitrate was given every six hours. Vomiting of two to four of her feedings occurred daily until the eighth hospital day. At this time 2.5 cc. of an aqueous solution containing 15 mg. of procaine amide was given every six hours. Vomiting occurred only once in the next 24 hours. During the second 24 hours only a slight regurgitation occurred, and this was associated with post-feeding eructations of gas. The infant was discharged on the 10th hospital day. She was given procaine amide after she went home. There was no recurrence of vomiting.

Comment.—This is the least convincing case history of the series, yet improvement in the clinical course promptly occurred when procaine amide was used instead of the usual antispasmodics and without any other changes in the management of the patient.

CASE 4.—A normal girl weighing 9 lb. 3 oz. (4,167.4 gm.) was born at Mercy Hospital on Feb. 27, 1951. Two ounces (60 cc.) of formula was given every four hours. On the third day, projectile vomiting of two feedings occurred. The amount of formula was reduced to 1 oz. (30 cc.) every three hours and phenobarbital, 1/12 grain (5.5 mg.) in an aqueous solution, was given 20 minutes before each feeding. Vomiting continued for two days then stopped for five days. The feeding schedule and the phenobarbital dosage was not changed during this period.

On the 10th day, vomiting recurred, and changes in the formula and feeding schedule did not alter it. There were no peristaltic waves, and no pyloric tumor was palpated. The clinical diagnosis was pylorospasm. On the 10th and 11th day of life, projectile vomiting of three of the infant's eight daily feedings occurred. On the 12th day, 2.5 cc. of an aqueous solution of procaine amide containing 15 mg. was given every six hours. There was slight vomiting after the second dose of procaine amide and none thereafter. The infant was discharged on the 20th day having regained her birth weight. The procaine amide therapy was continued for a month at home, during which time there was no vomiting and no evidence of toxicity.

Comment.—The early onset of vomiting in the absence of peristaltic waves and palpable tumor and the course of the disturbance prompted a diagnosis of pylorospasm. The early and marked improvement after the administration of procaine amide appears to justify the conclusion that the drug was responsible. We can account for the relief in no other way.

CASE 5.—A 6 lb. 4 oz. (2,835 gm.) boy was born after a full-term normal pregnancy and labor. A formula was prescribed and was retained until the sixth day, when projectile vomiting after each feeding began. Vomiting continued for the next three weeks, and, upon the infant's admission to Mercy Hospital, he was dehydrated and weighed 6 lb. 5 oz. (2,863.3 gm.). The physical examination was not remarkable otherwise. The dehydration was corrected by fluids administered parentally. Atropine methyl nitrate, 10 minims (0.616 cc.) in a 1:1,000 solution, was given one-half hour before each feeding. A mixture of 5% dextrose in distilled water and isotonic sodium chloride solution was given instead of the formula, but the vomiting continued. On the second hospital day, 1/1,000 grain (0.06 mg.) of atropine sulfate and 1/8 grain (8 mg.) of phenobarbital were given every six hours with no change in the vomiting. The clinical diagnosis at this time was pylorospasm. On the third hospital day, 2.5 cc. of an aqueous solution of procaine amide containing 15 mg. was given every four hours before feeding.

There was some decrease in the frequency of vomiting, but this was not marked. A careful examination while the child slept disclosed an unmistakable pyloric tumor, and the diagnosis was changed to hypertrophic pyloric stenosis. A pyloromyotomy was performed when the infant was 6 weeks old, with use of ether anesthesia, and a moderate-sized tumor was found. The infant retained 1 oz. feedings of 5% dextrose in distilled water at hourly intervals for two days. When the infant began to receive formula, vomiting recurred and persisted for two days. Procaine amide in the same dosage routine was given again, and after the first dose all feedings were retained. The vomiting may have stopped spontaneously as a result of the operation; however, it is likely that procaine amide was an aid in stopping this vomiting. Procaine amide therapy was discontinued after the 10th day postoperatively. When discharged, on the 28th postoperative day, the infant was retaining all formula feedings on a regular three hour schedule, and the weight was 6 lb. 8 oz. (2,948.4 gm.).

CASE 6.—An 8 lb. 14 oz. (4,025.6 gm.) boy was born after a normal gestation period and a labor of one and one-half hours' duration. The infant gained weight, and there were no feeding difficulties with the formula prescribed. At the age of 4 weeks the infant began to have projectile vomiting of all feedings. The infant was admitted to Mercy Hospital, where examination disclosed a 10 lb. (4,535.9 gm.) infant in no acute distress. There was no dehydration. Peristaltic waves were seen in the epigastrium, coursing from the left to the right side. One examiner palpated a mass in the region of the pylorus, but this finding was not substantiated by other examiners on repeated attempts in the early postadmission period. The admission diagnosis was pylorospasm, and treatment was directed along those lines. Feedings were reduced to ounce quantities, and procaine amide, 2.5 cc. of an aqueous solution containing 15 mg. of the drug, was administered 20 minutes before each feeding for 24 hours. The improvement was slight, and the administration of procaine amide was reduced to four times per 24 hours without change in the vomiting. No medicaments were given from the third day to the eighth day. Therapy with Donnatal, (elixir containing hyoscyamine sulfate, atropine sulfate, hyoscine hydrobromide, and phenobarbital), 15 minims (0.927 cc.), was then tried every four hours before feedings until the 11th hospital day. At this time, careful and repeated examinations disclosed a mass in the pyloric area, and the diagnosis was changed to hypertrophic pyloric stenosis. Vomiting had continued over this 11 day period, and the weight had decreased to 9 lb. 7 oz. (4,280.8 gm.). On the 18th hospital day, the diagnosis of hypertrophic pyloric stenosis was confirmed by surgical exploration, and pyloromyotomy was performed. Oral administration of

fluids was begun six hours postoperatively and continued at two hour intervals, always preceded by administration of procaine amide, 15 mg. in aqueous solution. No vomiting was present in the postoperative period, and procaine amide therapy was discontinued on the sixth postoperative day.

Comment.—It is not unusual for an infant to vomit for a short time after pyloromyotomy because of the disturbed physiology in the operative area. The fact that all feedings were retained after the first dose of procaine amide strongly suggests that there was an element of residual spasm in the pyloric region and that it was relieved by therapy with the drug. The use of procaine amide solution in the postoperative management of infants undergoing pyloromyotomy is suggested by case 5. Cases 5 and 6 both illustrate that procaine amide therapy given in the presence of a pyloric tumor mass has no significant effect in the relief of vomiting. The immediate cessation of vomiting after pyloromyotomy and the administration of procaine amide indicated a complementary effect of this antispasmodic.

SUMMARY

The use of procaine amide (Pronestyl) in pylorospasm has not been previously reported. Its mode of action in the alleviation of spasm of the upper gastrointestinal tract is unknown. On the basis of our knowledge of the pharmacology of this drug, we postulate that its mode of action is due to anesthetization of the gastric mucosa that causes a diminution in local irritability and an elevation of thresholds to all gastrointestinal stimuli, a relaxation of the pyloric sphincter, and a quiescence of all gastrointestinal motility. Investigations to test this hypothesis are in progress.

The findings in these cases and the course of the infants described here suggests that procaine amide can play an important role in the alleviation of spasm in the upper gastrointestinal tract of infants. Four cases of pylorospasm in which marked improvement followed its use are presented. It did not appear to be of benefit in two cases of congenital hypertrophic pyloric stenosis in alleviating vomiting before pyloromyotomy. It seemed to be helpful in the postoperative management of these patients. It may prove to be an aid as a therapeutic test in pylorospasm. Further trial of procaine amide administered orally in pylorospasm in infants is suggested. It must be pointed out, however, that any child receiving procaine amide should be checked carefully for the various side-actions of this drug. Although these effects have not been observed, we have watched carefully for evidence of cardiac changes, central nervous system stimulation or depression, and blood constituent changes. In another study on this drug,[3] we saw minimal side-actions. In several patients who have used procaine amide for periods over a year for arthritic pain, we have not seen changes. However, too few cases have been reported for definite conclusion to be reached. In an adult study to be reported at a later date, we found that gastric retention of various types have on frequent occasions responded to this drug. We measured the gastric retention in several patients prior to the use of the drug and again after procaine amide therapy and found the retention to be markedly diminished. On withdrawal of the drug, retention again occurred, and, with reinitiation of therapy with the drug, retention again diminished. Studies are in progress to determine the drug's exact mode of action in the gastrointestinal tract.

1819 W. Polk St. (12) (Dr. Sadove).

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TREATMENT OF CHRONIC DISCOID LUPUS ERYTHEMATOSUS WITH CHLOROQUINE (ARALEN)

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The treatment of discoid cutaneous lupus erythematosus was, until recently, very unsatisfactory. The disease not infrequently persists for many years, with intermittent exacerbations and partial remissions unrelated to any particular type of treatment. The only measure of regular value has been avoidance of exposure to sunlight. The effectiveness of the most commonly used treatment, injections of gold and sodium thiosulfate, is so equivocal in the experience of one of us (D. M. P.) that we have not used it at all for at least 12 years. The drug is toxic, and in patients with disseminated visceral lupus erythematosus, its ill-advised administration has sometimes produced disastrous results. The effectiveness of various compounds containing bismuth or arsenic has not been demonstrated without question; certainly any effects they have on discoid lupus erythematosus are feeble. Local destructive procedures, such as the use of carbon dioxide snow, are useful only in a small percentage of cases. X-ray and ultraviolet therapy are absolutely contraindicated. The effects of cortisone on chronic discoid lupus erythematosus are usually disappointing and almost always very temporary.

While patients with cutaneous discoid lupus erythematosus are not ill and are by no means likely to become so if the possibility of acute visceral lupus erythematosus has been ruled out by thorough initial study, they are often greatly disfigured by the disease. The social, occupational, and psychic implications may be profound.

The recent reports on the effectiveness of quinacrine (Atabrine) therapy in the treatment of chronic cutaneous lupus erythematosus have been encouraging.[1] The original observations of this effect were fortuitous. In

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The Army Research and Development Board supplied the chloroquine used in this study.

retrospect, it would appear that there is a good deal of evidence that compounds with chemical similarity to quinacrine have been of moderate value in the treatment of chronic cutaneous lupus erythematosus, and to a less certain extent, in acute visceral lupus erythematosus.[2]

Of these, quinine has long been used. Payne [2b] in 1894 noted that pallor developed when quinine was administered to patients with various febrile diseases. He reasoned that quinine would be of use in conditions, such as lupus erythematosus, that are characterized by vascular congestion. In 1928 Martenstein [3] treated discoid and subacute lupus erythematosus in 28 cases with pamaquine (Plasmochin), which is similar to quinine in that both are substituted 8-amino quinolines. He did not offer any rationale for its use but reported good results in 22 of the 28 persons treated. He also noted that lesions that were acutely inflamed and active responded more rapidly than hyperkeratotic indolent lesions. Pamaquine is known to have been rather widely used by European physicians for the treatment of this disease, but we have not encountered any further formal reports of its effectiveness.

Quinacrine, which differs from pamaquine only in the addition of a benzyl chloride group, was used for the treatment of lupus erythematosus by Prokoptchuk [1b] in 1940. His paper appeared in an obscure journal and was generally overlooked. However, Page [1a] in 1951 reported his independent observation that quinacrine was very effective in discoid cutaneous lupus erythematosus and, to a less extent, in acute visceral lupus erythematosus. He observed, as did Martenstein in the case of pamaquine, that the most rapid improvement occurred in acute inflamed lesions.

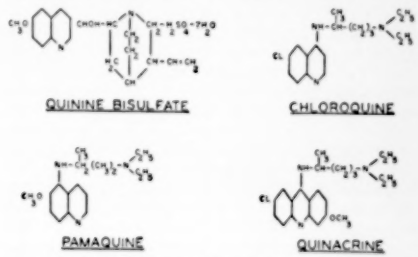
Since that time there have been several reports on the efficacy of quinacrine [5] in the treatment of both chronic and subacute lupus erythematosus. Toxicity studies on large series of animals and humans with quinacrine [6] reveal mild transient gastrointestinal disturbances, headache, depression, and in some cases lichenoid dermatitis and hepatitis. A case of fatal aplastic anemia after the administration of quinacrine for lupus erythematosus has recently been recorded.[6a] The chief drawback to the clinical use of quinacrine is the marked disfiguring yellow discoloration of the skin and toxic reactions after prolonged administration.

In an attempt to find a chemical analogue with an action similar to quinacrine that might be less toxic and that would not discolor the skin, the excellent studies done under the guidance of the Board of the Coordination of Malaria Studies were reviewed. The effects of compound SN 7618, later called chloroquine,[7] have been studied. It appears to be useful in the treatment of discoid cutaneous lupus erythematosus and polymorphous light eruptions. Certainly our results with this drug warrant further investigation.

The formula of chloroquine is very closely related to that of quinacrine, differing only in that the latter has an added benzoxymethyl group (see figure). Also, chloroquine is related to pamaquine by the substitution of an oxymethyl group for a chloride group in the latter on the 8-amino quinoline position.

Toxicity studies done on rats, dogs, and monkeys with both quinacrine and chloroquine [4] have shown that, while the lethal dose of chloroquine is lower than that of quinacrine, chloroquine produces no liver necrosis in rats and is considerably less toxic than quinacrine in monkeys. Monkeys tolerate doses of 25 to 50 mg. per kilogram of body weight of chloroquine without serious reaction. This is 6 to 12 times as much as the average therapeutic dose of chloroquine in man.

Extensive toxicity studies of the chronic effect of chloroquine [7b] have been done on human subjects at the Stateville Penitentiary. One group of 20 volunteers took 0.3 gm. of chloroquine base daily for 77 days and then 0.5 gm. weekly for one year. Another group took 0.5 gm. weekly for one year. Those receiving the larger doses showed transient visual disturbances, headache, bleaching of hair, nonspecific electrocardiographic changes, and slight weight loss. No gross incapacity was experienced, and all symptoms disappeared when administration of the medicament was stopped. Patients who received smaller amounts had only occasional headache, slight weight loss, and, in two cases, lichenoid dermatitis.[8]



Formulas of drugs with chemical similarity to quinacrine that have been used in treatment of lupus erythematosus.

With this information the treatment of chronic and subacute cutaneous lupus erythematosus with chloroquine was undertaken. A few patients with polymorphous

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5. Sulzberger and Baer,[1c] Cramer and Lewis,[1d] Sawicky.[1e]

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7. (*a*) Bispham, W. N.: Toxic Reactions Following Use of Atabrine in Malaria, Am. J. Trop. Med. **21**: 455, 1941. (*b*) Berliner, R. W., and others: The Physiological Disposition, Antimalarial Activity, and Toxicity of Several Derivatives of 4-Aminoquinoline, J. Clin. Invest. **27**: 98, 1948.

8. Alving, Alf S., and others: Studies on Chronic Toxicity of Chloroquine (SN 7618), J. Clin. Invest. **27**: 60, 1948.

eruptions due to sunlight have also been treated. Two patients with acute disseminated lupus erythematosus have also been treated, very cautiously, with chloroquine.

There is much confusion in the medical literature as to the differentiation of various types of lupus erythematosus. Some of this has arisen from a tendency to use the term "lupus" without qualification for acute disseminated lupus erythematosus. It is not within the province of this paper to undertake any complete discussion of the differentiation of cutaneous and visceral lupus erythematosus if, indeed, they are diseases of more than superficial similarity at times in respect to the skin lesions. We have the feeling that in most reported instances of "transition" from "chronic discoid" to "acute disseminated" lupus erythematosus, the original diagnosis was in error. Chronic discoid lupus erythematosus is a progressive process affecting the mucocutaneous surfaces only; acute disseminated lupus erythematosus is a generalized affection of collagen tissue in which involvement of the skin is purely incidental and, indeed, frequently does not occur.

Results of Treatment of Chronic Discoid Lupus Erythematosus with Chloroquine

Case	Age, Yr., and Sex	Location of Lesions	Duration, Yr.	Drug Used Previously	Results
1.	57 M	Nose, cheeks, temple, chest	3	Cortisone	Good
2.	40 F	Extensive, on cheek, neck, trunk, extremities	¾	Quinacrine (relapse during treatment)	Excellent
3.	49 M	Cheeks	2	CO_2	Very good
4.	57 F	Nose, under right eye, forehead, ears	12	CO_2, gold, neoarsphenamine, sulfathiazole, bismuth, liver extract, quinine, cortisone	Excellent
5.	62 F	Face, neck, back of hands	½	Bismuth	Excellent
6.	55 F	Bridge of nose, cheeks, forehead	5	Bismuth, quinacrine (relapse), cortisone	Excellent
7.	47 F	Face, scalp, mouth	4	Gold	Very good
8.	65 M	Face, ears, neck	6	Gold, bismuth, quinacrine	Very good
9.	29 M	Right lower eyelid, right temple	2	Quinacrine	Good
10.	28 M	Face, lips, mouth	2	Corticotropin, gold, bismuth	Poor
11.	64 M	Left ear	1	Gold	Very good
12.	56 F	Face, forehead	25	Gold, bismuth, sulfadiazine	Good
13.	27 F	Face	1½	Cortisone	Good
14.	54 F	Face, nose, cheek, ear	7	Gold, CO_2	Excellent
15.	42 M	Nose, chin, cheekbones, ear lobes	16	Gold, bismuth, CO_2	Good
16.	31 F	Face, neck, ears	3	Quinine, B_{12}, cortisone, chloramphenicol, penicillin	Excellent

In any patient with cutaneous or other signs of lupus erythematosus or with symptoms suggestive of visceral involvement, the initial medical study should be extremely thorough in an effort to determine whether or not the patient has acute disseminated lupus erythematosus. In the majority of patients, possibly as high as 90%, a differentiation between discoid cutaneous lupus erythematosus and disseminated visceral lupus erythematosus may be made promptly. In the remainder, because visceral lupus erythematosus is an extremely chronic disease and its initial symptoms and signs inconspicuous and elusive, considerable observation may be necessary. If a diagnosis of chronic cutaneous discoid lupus erythematosus can be made with finality, much has been accomplished. The patient may be given rather firm assurance that the process is of no great general medical significance.

In this series of patients with chronic cutaneous lupus erythematosus, the following principal criteria have been used in ruling out disseminated collagen disease (of the lupus erythematosus type): 1. The general health of the patient is good, without significant signs or symptoms that might be evidence of acute disseminated lupus erythematosus. In a typical case of collagen disease, these signs may be well marked but are occasionally vague and indefinite. 2. There is a negative serologic test for syphilis. Persistent biological false positive reactions are common in acute disseminated lupus erythematosus and must not be disregarded. 3. The hematologic picture is normal or nearly normal. Several of the patients in the present series had moderate anemia, but none had leukopenia. Platelet counts were not done in all cases. 4. The sedimentation rate is within normal limits. 5. There are no signs of visceral lupus erythematosus on adequate complete general physical examination. In several of the patients in this series, particularly those with extensive skin lesions, study in the hospital was carried out initially. 6. The results of repeated urinalysis are normal. 7. The temperature is not elevated.

In the absence of suggestive signs or symptoms, it is of no value to perform studies for the lupus erythematosus cell. However, in the four patients in this series who were hospitalized, this study was carried out and was negative. Biopsy of the skin (with pathological study by Dr. Herman Beerman) confirmed the clinical diagnosis of chronic cutaneous lupus erythematosus in every case. The dermatopathological changes are quite characteristic in this disease; they are much less so in acute disseminated lupus erythematosus.

The dosage schedule of chloroquine employed was variable. The patients who were treated initially were given 0.5 gm. of chloroquine daily as chloroquine diphosphate containing 0.3 gm. of chloroquine base. When it became apparent that such therapy would probably be necessary for periods varying from one to two months, the dose was reduced to 250 mg. daily. In patients treated more recently, this has been the initial dose, and the results have been fully as satisfactory as with a dose of 500 mg. daily.

The results of treatment with chloroquine were very good (see the table). Sixteen patients with discoid lupus erythematosus were treated for periods of one to six months. They have been observed for from 4 to 10 months since the initiation of chloroquine therapy, with a mean period of observation of 6.5 months. Of these patients, six showed excellent results, with resolution of all activity and residual atrophy and scarring only. The results in four patients were considered to be very good, with residual activity of the disease questionable, and in five patients good, with a few small areas of activity. In one patient in whom there was extensive mucous membrane and lip involvement, no response whatever was

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noted. Six of the patients relapsed partially in four to eight weeks after therapy was stopped but responded promptly to a second course of chloroquine.

Although our experience and period of follow-up are as yet limited, it would seem that certain general statements concerning the effect of chloroquine therapy may be set down. In a majority of the patients, the effect is clearly discernible within two weeks. While we cannot be certain, it seems doubtful that any effect will be noted if it has not appeared after a month of treatment.

As a general rule treatment is continued with a dose of 250 mg. daily for the first month, by which time the signs of the disease in the skin will be seen to be involuting markedly and steadily. After this, 250 mg. of chloroquine is given every other day for three to four weeks. If, as is ordinarily the case, signs of the disease have disappeared completely or if the residual lesions seem quiescent, treatment is stopped.

The percentage of patients who will have relapses after cessation of treatment is unknown, but we suspect that it may be fairly high. Patients have been instructed to return promptly if any significant recurrence is noted. At this time, a general physical examination is repeated and routine laboratory studies carried out again, including blood cell count, sedimentation rate, and urinalysis. It is our present custom to readminister chloroquine in a dosage of 250 mg. daily. In the six patients re-treated to date, the response has been as satisfactory as that noted initially.

There seems to be no particular advantage, and possibly some definite disadvantage, in continuing chloroquine therapy for a longer initial course. It is well known that when the lesions of chronic cutaneous lupus erythematosus become quiescent, they may remain so for from many months to years. It is hoped that this will occur in a significant percentage of patients. In the second place, though the chronic toxicity data on chloroquine are encouraging, much further experience needs to be gained in routine clinical use before the incidence of cutaneous, hematological, or other reactions will be determined definitely.

In the present series, chloroquine therapy was discontinued in only one patient. This was a highly neurotic and suggestible woman who complained of abdominal cramps after taking two doses, the cramps subsiding after administration of the drug was discontinued. It was not readministered, and the patient has disappeared from view. There were no other significant toxic effects. Slight headache or partial loss of appetite was complained of by some patients, but the relation to chloroquine therapy is not known. There may occasionally be difficulty in ocular accommodation, but this is by no means certain. Routine blood cell counts and urinalyses at intervals of one to three weeks revealed no changes indicative of toxic effects. This initial experience was encouraging from the standpoint of toxicity, but it is to be emphasized that the incidence of reactions may rise upon repeated readministration of the drug, because some patients may become sensitized by the first or second course of therapy.

Two cases of polymorphous light eruption were successfully treated. Both of these patients were extremely sensitive to test doses of hot quartz ultraviolet rays. After one month of chloroquine therapy, their tolerance increased 5 to 10 times to hot quartz irradiation. Both of these patients suspended treatment during the winter and are currently receiving chloroquine prophylactically during the summer months.

In one case of subacute disseminated lupus erythematosus a young woman with a positive L. E. cell preparation had a complete remission after one month of chloroquine therapy. Whether this was spontaneous or related to treatment is unknown. One case of subacute disseminated lupus erythematosus with a positive L. E. cell test was treated concurrently with cortisone (Cortone) and chloroquine. A remission occurred, but it is difficult to evaluate the part played individually by each of these drugs.

SUMMARY

In 16 patients with chronic discoid lupus erythematosus treated by administration of chloroquine (Aralen) diphosphate in daily doses of 0.25 to 0.5 gm., clinical effects were generally very good, equal, or superior to those obtained with quinacrine (Atabrine) therapy.

During a period of observation varying from 4 to 10 months after the initiation of chloroquine therapy, no significant toxic effects were noted. The absence of pigmentation, which is a very objectionable feature of quinacrine therapy, is a great boon. It is entirely possible that toxic reactions may be seen on repeated or prolonged administration of the drug, and careful observation of patients receiving chloroquine is advisable until the experience with this compound is more extensive. It seems probable that the effects of chloroquine on the skin lesions of discoid lupus erythematosus are suppressant rather than curative, though there is hope that permanent remission may sometimes be accomplished. Goldman and his associates [9] have published their short-term observations of patients with discoid lupus erythematosus treated with chloroquine. Their results are quite similar to ours.

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9. Goldman, L.; Cole, D. P., and Preston, R. H.: Chloroquine Diphosphate in Treatment of Discoid Lupus Erythematosus, J. A. M. A. 152:1428 (Aug. 8) 1953.

Social Adjustment.—In all [its] traditional activities, the public-health movement has already reached the point of diminishing returns. Further progress will require the initiation and use of new procedures. Even improvement in physical health is coming to depend less upon changes in the geographical and biological environments than upon changes in what people think and feel and how they live within the social institutions and cultural patterns of the community. Thus, the physical health of the baby brought to the clinic often depends less upon the staff's competence in weighing, measuring, and adapting its food formula than upon their competence in giving its mother emotional reassurance in her own rôle as a mother. The venereal-disease patient has no more need for the penicillin treatment and prophylactic knowledge that he receives than for the maturer philosophy of life and scale of social values that make for better social adjustment in the future, which he too often does not receive. For with a maturer social adjustment, he will require no further penicillin or prophylaxis; without it, he may become a sullen and defiant repeater. The finest community facilities for the treatment of disease in general are of little avail unless the inner feeling states of the patient and his family, upon which acceptance of and response to treatment so largely depend, are sympathetically understood and skillfully adjusted.—H. E. Jensen, Mental Health: A Local Public-Health Responsibility, *Mental Hygiene*, October, 1953.

FIVE YEAR FOLLOW-UP OF TREATMENT WITH TRIHEXYPHENIDYL (ARTANE)

OUTCOME IN FOUR HUNDRED ELEVEN CASES OF PARALYSIS AGITANS

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Four years ago, two of us (L. J. D. and K. C.) reported our observations during a year of treating 117 patients with paralysis agitans (Parkinson's disease) with trihexyphenidyl (Artane).[1] The salient findings were (1) the therapeutic effects of trihexyphenidyl equalled or surpassed those of other agents in use at the time and (2) trihexyphenidyl was relatively free from disturbing side-reactions.

Other reports appeared in quick succession and corroborated most of our findings. Corbin [2] reported gratifying results in 86 cases; Dow and Rosenbaum [3] in 20 cases; Canelis, Farnell, and McGavack [4] in 23 cases; Ellenbogen [5] in 12 cases; Phillips, Montuschi, and Sharkey [6] in 200 postencephalitic cases; Salzer [7] in 12 cases; Effron and Denker [8] in 80 cases; and Shapiro [9] in 60 cases. Before long, the drug came into professional use throughout the world, and today it is commonly accepted as the standby in the treatment of all forms of paralysis agitans. No published data, however, are available as to the long-term results of therapy with trihexyphenidyl. Since the definitive evaluation of treatment in a chronic illness must take this into account, we felt it necessary that the present study be undertaken.

MATERIAL

The survey is based on a five year follow-up of 411 patients who were treated with trihexyphenidyl at the Vanderbilt Clinic and the Neurological Institute of the Presbyterian Hospital. The necessary data were assembled by questionnaires and interviews with patients or relatives. Although there were 466 patients in the group treated with trihexyphenidyl, 50 of these patients could not be traced. In part, this was attributed to the fact that many patients came to us from foreign countries or from distant parts of the United States. Others moved during the years and could not be found. In five of the patients traced, the diagnosis of conditions other than paralysis agitans was made, and, hence, these persons are not included in this study. Of the 411 patients who were traced, the disease is classified as postencephalitic in 166, idiopathic in 112, and arteriosclerotic in 133.

Men predominated over women in the proportion of 63 to 37%. In the idiopathic group, there were more than twice as many men as women. This suggests that stress may be a possible contributing cause of the illness, since it is common knowledge that men are much more exposed to the strains and trials of occupation and environment than women. The mean of the current ages (1952) of the patients was 41 to 45 in the postencephalitic group, 51 to 55 in the idiopathic group, and 61 to 65 in the arteriosclerotic group.

The dose of trihexyphenidyl varied from 2 to 7.5 mg. a day in arteriosclerotic cases, 6 to 10 mg. a day in idiopathic cases, and 7.5 to 30 mg. a day in postencephalitic cases. Sixty-nine (17%) of the patients continued the treatment for five years; 107 (26%) for four years; 83 (20%) for three years; 63 (15%) for one to two years; 39 (10%) for 6 to 12 months; 29 (7%) for 3 to 6 months; and 15 (4%) for less than 3 months. Six (1%) of the patients took trihexyphenidyl for more than five years. Summing the figures, it can be seen that 259, or 63%, of the patients received trihexyphenidyl for two to five years and 322, or 78%, for one to five years. Considering that patients with paralysis agitans are known to tire of any remedy and are in a constant search for something new, these findings are truly revealing.

RESULTS

The results of treatment with trihexyphenidyl are presented in table 1 according to the age of patients as of September, 1952. Among the 411 patients, 300, or 73%, showed improvement while receiving this medication. Improvement was based on the clinical reports of physicians who had observed the patients during the five years of treatment and on reports obtained from the patients and their relatives. Seventy-seven per cent of the patients with the idiopathic and postencephalitic forms showed improvement, while only 65% of those in the arteriosclerotic group did so. In each group, younger patients showed a better response to treatment. Since the arteriosclerotic group, as a whole, was composed of patients older than those of the other two groups, it is not surprising that the rate of response in this group was lower.

From the Department of Neurology, College of Physicians and Surgeons, Columbia University, and the Neurological Institute of Presbyterian Hospital.

Dr. M. Donaldson assisted in this study.
The trihexyphenidyl (Artane) was manufactured by Lederle Laboratories Division, American Cyanamid Company, Pearl River, N. Y.

1. Doshay, L. J., and Constable, K.: Artane Therapy for Parkinsonism, J. A. M. A. **140**:1317 (Aug. 27) 1949.
2. Corbin, K. B.: Trihexyphenidyl Evaluation of New Agent in Treatment of Parkinsonism, J. A. M. A. **141**:377 (Oct. 8) 1949.
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4. Canelis, M.; Farnell, F. J., and McGavack, T. H.: Clinical Experiences in Parkinsonism with a New Type of Antispasmodic, 3-(1-Piperidyl)-1-Phenyl-1-Cyclohexyl-1-Propanol Hydrochloride (Artane), Am. J. M. Sc. **218**:655, 1949.
5. Ellenbogen, B. K.: Artane in the Treatment of Parkinsonism, Lancet **1**:1034, 1950.
6. Phillips, J.; Montuschi, E., and Sharkey, J.: Artane in the Treatment of Parkinsonism, Lancet **1**:1131, 1950.
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8. Effron, A. S., and Denker, P. G.: Clinical Evaluation of Certain Antihistaminic and Antispasmodic Drugs in Parkinson's Disease, J. A. M. A. **144**:5 (Sept. 2) 1950.
9. Shapiro, S. K.: Drug Therapy in Parkinsonism, Minnesota Med. **35**:1031, 1952.

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Table 2 shows the results of treatment with relation to the duration of illness prior to the commencement of therapy. It is of interest to note that trihexyphenidyl is as effective in patients ill for 10, 15, or 20 years as it is in those whose illness is of recent origin. Table 3 gives the effect of trihexyphenidyl on the individual symptoms of the illness. It is significant that, in all groups of paralysis agitans, the drug is about as effective against tremor as it is against rigidity (51% and 53%).[10] This is contrary to earlier concepts that trihexyphenidyl was chiefly of benefit to those patients suffering from rigidity and akinesia. Table 3 also reveals that trihexyphenidyl is very effective against oculogyria. Of 47 patients with oculogyria, 39, or 84%, showed a marked lessening or complete control of this symptom.

The frequency with which trihexyphenidyl was combined with other drugs in efforts to bring maximum benefits to the patients is shown in table 4. Trihexyphenidyl

TABLE 1.—*Results of Treatment with Trihexyphenidyl in Three Types of Paralysis Agitans According to Patients' Age*

Age (1952), Yr.	Postencephalitic		Idiopathic		Arteriosclerotic	
	Unimproved	Improved	Unimproved	Improved	Unimproved	Improved
16-20	..	1	..	..	..	..
20-30	1	7	..	..	..	..
30-40	15	62	..	2	..	..
40-50	11	48	9	48	1	5
50-60	7	19	17	33	17	38
60-70	3	2	1	1	23	40
70-80	..	..	..	..	6	3
Total	37	129	27	85	47	86
Percentage	22	78	24	76	35	65

TABLE 2.—*Results of Treatment with Trihexyphenidyl with Relation to Duration of Illness Before Therapy*

Duration, Yr.	Unimproved		Improved	
	No. of Cases	%	No. of Cases	%
Under 2	30	31	66	69
3- 5	27	26	78	74
6-10	25	30	59	70
11-15	12	23	42	77
16-20	11	28	29	72
Over 20	6	19	26	81
Total	111	27	300	73

was combined with scopolamine (Hyoscine)[11] in 98 cases and with diphenhydramine (Benadryl) hydrochloride [12] in 105 cases to help counteract tremor, insomnia, tension, and excitement. It was combined with atropine in 22 cases, with Thephorin (2-methyl-9-phenyl-2,3,4,9-tetrahydro-1-pyridindene hydrogen tartrate) in 41 cases, and with Bellabulgara (tablets containing extract of Bulgarian belladonna standardized to yield 0.4 mg. of total alkaloids) in 143 cases to help counteract rigidity. It was also combined with amphetamine (Benzedrine) sulfate or *d*-amphetamine (Dexedrine) sulfate in 44 cases to combat lethargy and akinesia. In 100 cases it was combined with MK-02 [13] to counteract cramps, spasms, contracture, and deformity. MK-02 is tropine benzohydryl ether methane sulfonate, but is not yet commercially available. From the high frequency of other drugs listed in use with trihexyphenidyl, one might be led to the conclusion that trihexyphenidyl was rarely ever used alone or that it was ineffective when used alone. This is contrary to the facts. Many patients, for example, would try diphenhydramine or scopolamine for but a few days and discontinue them because of reactions of "dopiness" or somnolence. Nevertheless, such and similar patients would have to be

TABLE 3.—*Effect of Trihexyphenidyl on Symptoms in 411 Patients with Paralysis Agitans*

Favorable Results Noted	No. of Cases	%
Less rigidity	221	53
Less tremor	207	51
General condition improved	186	45
Activity improved	98	24
Gait improved	91	22
Mentality and morale improved	79	19
Works more	67	16
Speech improved	42	11
Oculogyria lessened or controlled (among 47 oculogyric patients)	39	84

listed as having employed a combination of drugs. Actually, however, trihexyphenidyl was used alone in from 60 to 70% of the patients, year in and year out, except that another drug was added from time to time in efforts to combat one or another symptom.

TABLE 4.—*Number of Instances in Which Trihexyphenidyl Was Combined with Other Drugs*

Other Drugs Used	No. of Cases	%
Bellabulgara *	143	35
Diphenhydramine (Benadryl) hydrochloride	105	25
MK-02 †	100	24
Scopolamine (Hyoscine)	98	23
Thephorin ‡	41	10
d-Amphetamine (Dexedrine) sulfate	23	6
Atropine	22	5
Amphetamine (Benzedrine) hydrochloride	21	5
Genoscopolamine	15	4
Rabellon §	12	3
Stramonium	8	2
Vinobel ‖	6	2
Mephenesin (Tolserol)	3	1
Caramiphen (Panparnit) hydrochloride	3	1
Diparcol ¶	2	1

* Extract of Bulgarian belladonna standardized to yield 0.4 mg. of total alkaloids.
† Tropine benzohydryl ether methane sulfonate.
‡ 2-methyl-9-phenyl-2,3,4,9-tetrahydro-1-pyridindene hydrogen tartrate.
§ Belladonna alkaloids.
‖ Wine extract of the total alkaloids of belladonna root.
¶ 10-[2-diethylaminoethyl]-phenothiazine.

SIDE-REACTIONS

Of the listed side-reactions, 159, or two-thirds, were instances of dryness of the mouth (101 instances, 24%) and blurring of vision (58 instances, 14%), reactions common to almost all drugs used in the treatment of paralysis agitans.[14] Pharmacological studies conducted by

10. Doshay, L. J., and Zier, A.: Minor and Major Tremor in Parkinsonism, Outcomes in 520 Treated Cases, Neurology **3**: 360, 1953.
11. Hall, A. J.: Post-Encephalitic Parkinsonian, Brit. M. J. **2**: 555, 1935.
12. Doshay, L., and Constable, K.: Newer Drugs in the Treatment of Parkinsonism, Neurology **1**: 68, 1951.
13. Doshay, L. J.; Constable, K., and Fromer, S.: Preliminary Study of a New Antiparkinson Agent, Neurology **2**: 233, 1952.
14. Doshay, L. J.: Parkinsonism (Postencephalitic, Idiopathic and Arteriosclerotic), in Current Therapy, Philadelphia, W. B. Saunders Company, 1953, p. 652.

Lederle Laboratories proved that the dryness of the mouth caused by trihexyphenidyl is mild and only 12% of that caused by atropine. When it is employed within therapeutic range, this reaction is rarely a source of disturbance to the patient.

Other side-reactions included 24 instances (6%) of nausea, 18 (4%) of akinesia, 18 (4%) of dizziness, and 15 (3%) of mental confusion. These add up to 75, or 17%, of the patients treated, if each reaction had occurred in different patients. Excessive heat occurred in one patient. It was found, however, that one-third of the patients complained of more than one side-reaction. Hence, the 75 side-reactions may be attributed to 50, or 12%, of the 411 patients.

The complaint of nausea, in most instances, was related to dryness of the mouth or to coincidental gastric upset. In the few cases in which nausea was actually due to an overdose of medication or special sensitivity of the patient, it readily disappeared on reduction in the dose of the drug.

The complaint of akinesia cannot be attributed to the effects of trihexyphenidyl; it is one of the primary symptoms of the disease. Examination of the records showed that the akinesia was not caused by the drug, but that it was not controlled by trihexyphenidyl in the dosage employed at the time. An increase in the amount of trihexyphenidyl, or the addition of *d*-amphetamine or amphetamine to the medication, generally sufficed to correct the situation.

It is known that dizziness and mental confusion can be caused by an overdose of trihexyphenidyl, especially in elderly patients. In fact, several instances of hallucinations have come to our attention in patients that were treated elsewhere with large doses of the drug. When it is employed in ordinary therapeutic dosage, there is seldom complaint of reactions other than blurred vision and dryness of the mouth. Even these symptoms are prominent only during the early months of treatment, since only 4 of 259 patients who took trihexyphenidyl for two to five years discontinued the treatment because of side-reactions. There was not a single instance of serious side-reactions in the entire series.

COMMENT

Judged solely by the initial response of the patients, trihexyphenidyl indisputably qualifies as an excellent preparation for the treatment of paralysis agitans. The results of our study indicate that its efficacy continues undiminished over extended periods. The follow-up of 411 patients with paralysis agitans shows that 78% of them continued treatment with trihexyphenidyl for one to five years and 63% for two to five years. The data reveal that 73% of the patients were improved by the treatment. No other agent now available produces equal results in the treatment of paralysis agitans.

Two things stand out in the findings of the study: 1. Trihexyphenidyl is relatively nontoxic. A high percentage of the patients tolerated it continuously over a period of years. 2. Trihexyphenidyl provided satisfactory benefits to the patients. If it had not, they would not have taken it for so long a time, but would have turned to other preparations.

The acclaim that has been given this drug since its original use in the therapy of paralysis agitans is not accidental, but is directly related to its intrinsic values. Trihexyphenidyl not only is highly effective against rigidity, akinesia, tremor, oculogyria, lethargy, sialorrhea, and depression but causes few side-reactions of any consequence. The fact that 182 patients, or 44% of the series, derived benefits from the drug after taking it continuously for three to five years indicates that there is no great increase in tolerance to it and that patients can continue to take it with benefit for a long time.

SUMMARY AND CONCLUSIONS

The results of a five year follow-up survey, undertaken to determine the long-term action of trihexyphenidyl (Artane) hydrochloride in 411 patients with paralysis agitans (Parkinson's disease), are reported. It was found that the drug was well tolerated by patients with all types of paralysis agitans. Three out of every four patients took the drug for one to five years and derived benefits from it. It is effective against all the symptoms of paralysis agitans, but is especially useful in patients with oculogyria. Trihexyphenidyl successfully controlled that in 84% of the cases.

Trihexyphenidyl can be used alone, but is some cases its effectiveness is enhanced by a suitable combination with other drugs. The increase in tolerance to this drug is small, so treatment may be effectively continued for many years.

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Hormones in Geriatrics.—One should keep in mind the far-reaching effect of steroids on the various body tissues. Administration of a specific hormone may alter the metabolism and function of more than one organ and produce many effects other than the ones desired. It is wise, therefore, to evaluate the possible results of steroid therapy in the light of the patient's ability to adapt to the changes. . . . Aged tissue is less responsive to hormonal action than is younger tissue. This may mean that larger doses and more time will be required to produce the desired results. Fortunately, in aged patients sex steroids can be administered in large doses without fear of inhibition of spermatogenesis or oogenesis.

Most of the endocrine dysfunctions in elderly people are polyglandular in nature. No one steroid can, in such cases, alleviate the disorder completely. Combinations of hormones may substitute for the pluriglandular deficiency, counteract the untoward effects of each other, and aid each other by a synergistic effect. . . . Multihormone therapy designed for the needs of the individual patient and approaching as nearly as possible normal blood concentrations may prove the most effective way to utilize the steroids. . . . Each geriatric patient represents a completely different problem, the results of all the stresses, injuries, and nutritional and functional deficits he has experienced in his lifetime. "Tailor made" therapy thus brings effective results psychologically as well as physiologically. It is gratifying to the geriatrician as well as to the patient, who frequently needs a sympathetic ear as much as medication.

The present results with steroid therapy in geriatrics are astonishing; their future possibilities stagger the imagination. Steroids especially designed to produce a certain effect with no side-actions would be widely acclaimed. Radioactive steroids for therapy and clinical investigation may soon show us some of the secrets of cellular hormone utilization. With their abilities to reverse the body's metabolic age the steroid hormones make geriatrics one of the most important and satisfying fields in the practice of medicine.—E. A. Jones, Jr., Steroid Hormones in Geriatrics, *Journal of the American Geriatrics Society*, February, 1954.

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PAROXYSMAL TACHYCARDIA IN THE NEWBORN WITH ONSET IN UTERO

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Paroxysmal tachycardia in infancy was first described by Buckland [1] in 1892. Since then, there have been numerous reports of its occurrence; several of these cases were in newborn infants.[2] However, the present case is unique in that it appears to represent the third reported instance of paroxysmal supraventricular tachycardia other than atrial flutter in which the onset of the ectopic rhythm occurred in utero. We have preferred the more conventional restrictive classification of paroxysmal tachycardia of supraventricular origin to include only atrial, AV nodal, and (the theoretical sinus) paroxysmal tachycardias (P. D. White [3] and Katz [4]); thus paroxysmal atrial flutter and paroxysmal atrial fibrillation are considered a distinct and second category of rapid heart action. The first case was reported by Garvin and Kline [5] in 1947; the pacemaker in their patient was in the AV node and the heart rate was 200 to 250 per minute. The second was reported by Sancetta, Redding, and Haubrich [6] in 1952; the heart rate was 222, and the mechanism also appeared to have its origin in the AV node. The pacemaker in our patient was probably in the atria; the rate of discharge was 312 per minute (fig. 1 and 2). In addition, the literature contains reports of 9 cases of congenital paroxysmal atrial flutter,[7] bringing the total number of reported cases of all forms of prenatal or congenital paroxysmal rapid heart action to 12. The small series suggests a threefold incidence of congenital atrial flutter as compared to congenital supraventricular tachycardia.

REPORT OF A CASE

The mother was a 27-year-old, white, normotensive woman who was admitted to the obstetrical division of the Cedars of Lebanon Hospital at 5 p. m. Sept. 23, 1952, at term and in early labor. Her pregnancy had been uneventful, except for mild nausea during the first three months for which she received dextroamphetamine sulfate, 5 grains (0.3 gm.) once daily, during the first month; this medication was replaced during the subsequent two months by Nidoxital (benzocaine 100 mg.; pyridoxine hydrochloride, 50 mg.; nicotinamide, 25 mg.; *d,l*-methionine, 100 mg.; and pentobarbital sodium, 15 mg.), one capsule intermittently when necessary. The only medicaments taken during the remainder of her pregnancy, exclusive of labor, were the prenatal vitamin-mineral preparations Calphytin (thiamine hydrochloride, 5 mg.; riboflavin, 3 mg.; niacinamide, 10 mg.; ascorbic acid, 37.5 mg.; vitamin A, 2,000 U. S. P. units; vitamin D, 400 U. S. P. units; ferrous sulfate, 3 grains [0.2 gm.]; dicalcium phosphate, 7.5 grains [0.5 gm.]; and calcium fluoride, 1 mg.), three tablets daily, and Calcigen (calcium, 0.112 gm.; phosphorus, 0.046 gm.; fluorine, 0.076 mg.; ascorbic acid, 10 mg.; and vitamin D, 125 U. S. P. units), one capsule daily. These drugs were taken to the day of delivery. She did not use tobacco.

Examination on admission by her obstetrician (Dr. George S. Harris) revealed a fetal heart rate too rapid to be counted beyond 240 per minute. This was interpreted at the time as signifying fetal distress, but conservative management rather than surgical intervention was considered the procedure of choice by Dr. Harris. Four hours after admission the mother received an analgesic combination of meperidine (Demerol), 100 mg., scopolamine, 1/150 grain (0.4 mg.), and secobarbital (Seconal), 3 grains, and six and three-quarter hours after admission delivery was accomplished with the woman under low spinal anesthesia (1% tetracaine [Pontocaine] hydrochloride).

At birth the infant girl weighed 7 lb. 14 oz. (3,572 gm.) and was cyanotic and in obvious respiratory distress. The infant's condition was considered serious, she was promptly placed in an incubator, and oxygen was administered. Her condition was too serious to permit electrocardiographic studies at this time, but her heart rate was estimated to be in excess of 280 per minute. Rhythm was regular, and there were no demonstrable murmurs. She was given tincture of digitalis, 2 minims twice daily. When the infant was approximately 36 hours old, penicillin, 50,000 units, was given orally every 4 hours. When she was 3½ days old, the paroxysmal tachycardia ceased and was replaced by normal sinus rhythm and a heart rate of 128 per minute. This represented the first instance of sinus rhythm in this infant, and again no murmurs or other evidence of organic disease were detected. Cyanosis and dyspnea disappeared almost immediately after cessation of the paroxysmal tachycardia. The dosage of tincture of digitalis was reduced to 1 minim twice daily. Approximately 12 hours later, paroxysmal tachycardia reappeared. Cyanosis and dyspnea again developed. The dosage of tincture of digitalis was increased to 2 minims twice daily. The infant's condition became progressively worse, and on the sixth day bilateral moist rales, hepatomegaly, abdominal distension, and edema of the labia developed. The prognosis appeared very poor at this time. The infant was then given lanatoside C (Cedilanid), 0.1 mg. intramuscularly every four hours for three doses. Approximately one hour after the third dose was given, the paroxysm terminated and the rhythm became regular sinus, with a heart rate of 120 per minute. On the following day, the dosage of tincture of digitalis was reduced to a maintenance dose of 1 minim daily. When the infant was 9 days old, the administration of digitalis was discontinued, and on the 12th day she was discharged from the hospital weighing 8 lb. (3,628.7 gm.) and in apparent good health.

The infant remained well until one month later when she was 6 weeks old and when paroxysmal tachycardia recurred. An electrocardiogram revealed supraventricular tachycardia with a

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rate of 312 beats per minute. (Atrial flutter with 1:1 conduction could not be excluded with certainty.) She was given tincture of digitalis, 3 minims twice daily. On the following day, dependent edema developed and the baby was given lanatoside C, 0.1 mg. intramuscularly. One hour later 0.25 mg. of lanatoside C was administered intramuscularly, and six hours later 0.4 mg. of lanatoside C was administered by the same route. Approximately eight hours later reexamination disclosed normal sinus rhythm with a heart rate of 130 per minute. The oral administration of tincture of digitalis was continued uninterrupted during this period, and after the third day the infant was given a maintenance dose of 1 minim daily for one month. This was followed by a reduction to 1 minim every two days. When the baby was 3½ months old (weight 13 lb., 2 oz. [5,953.4 gm.]), paroxysmal tachycardia again developed. The dosage of tincture of digitalis was increased to 3 minims every six hours, and after the third dose the rhythm reverted to normal sinus, with a rate of 140 per minute. The infant was then given a maintenance dose of 1 minim every two days for two months, then 1 minim weekly until the age of 7½ months, when administration of the drug was discontinued. At the time this report was written, the child was 15 months old, weighed 22 lb. (10 kg.), and was in normal health.

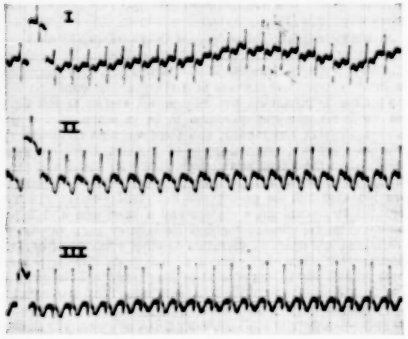

Fig. 1.—Leads 1, 2, and 3 of electrocardiogram demonstrating paroxysmal supraventricular tachycardia with heart rate 312 per minute in infant reported on.

COMMENT

The cause of the ectopic rhythm in this infant is obscure. In the immediate postnatal period, it was postulated that the arrhythmia may have been initiated by either (1) a metabolite of the terminal stages of pregnancy to which the fetal myocardium was sensitive or (2) a subclinical electrolyte disturbance. However, the subsequent reappearance of paroxysms months after birth excluded these factors. Drugs were also eliminated for the same reason.

Dynamically, this is a serious disease that requires prompt treatment. Owing to the markedly abbreviated diastolic filling time, stroke volume is sharply reduced and results in the development of both backward and forward failure. In addition, marked shortening of diastole reduces coronary flow that tends to introduce other factors—(1) further promotion of myocardial failure and (2) perpetuation of the arrhythmia due to ischemia-induced interference with recovery of the normal pacemaker, i. e., the sinus node. The drug of choice in the infant is one of the digitalis preparations. One particularly adapted for this purpose is lanatoside C, administered intramuscularly or intravenously in a dosage of 0.01 mg. per pound of body weight. This may be repeated at one-half to four hour intervals for two additional doses; however, considerable variation is necessary depending on individual urgency. Tincture of digitalis would appear to be best avoided in the treatment of the acute attack; its action is slower and its potency unreliable (owing to infrequent current usage and consequent long storage). For prophylaxis, however, it is a simple, practical preparation, provided arrangements are made with a pharmacist to assure fresh preparations. Prophylactic therapy should be continued for a considerable period after cessation of the arrhythmia. Our experience, as well as the experience of others, indicates a distinct tendency to recurrence. A two month period of prophylactic medication would appear to be the minimum. During this period, vigilance should be exercised to detect drug-induced nausea and its consequent effect on the feeding pattern and development of the infant. In general, despite the seriousness of the disease, the prognosis is good with treatment, both for the acute attack and for the prevention of recurrences.

Of some interest is the extreme tachycardia in our infant, i. e., 312 per minute. In 1943 Edeiken [8] was able to collect only 17 cases from the literature in which the heart rate exceeded 300; of these 12 were in infants. The most rapid heart rate recorded in a human being was 365 per minute in an infant who died.[9]

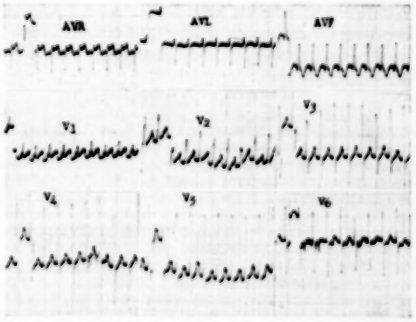

Fig. 2.—Additional leads of electrocardiogram of infant reported on.

SUMMARY

The case of congenital paroxysmal supraventricular tachycardia (rate 312 per minute), as distinct from congenital paroxysmal atrial flutter, reported brings to 12 the total number of reported cases of all forms of congenital paroxysmal rapid heart action.

130 S. Robertson Blvd. (Dr. Wilburne).

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SIGNIFICANCE OF NUCLEATED RED BLOOD CELLS IN PERIPHERAL BLOOD

ANALYSIS OF 1,496 CASES

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Under normal conditions, nucleated red blood cells are found only in the circulating blood of the fetus and the newborn infant. Beyond that period the presence of nucleated red blood cells in the peripheral blood indicates disorder in the blood-producing mechanism. Because nucleated red blood cells are immature cells, they do not enter the blood normally. No totally satisfactory explanation is available of the precise mechanism that maintains a "barrier" that normally prevents primitive cells of the marrow from reaching the peripheral circulation. Evidence suggests at least two mechanisms: one chemical, primarily influenced by anoxia; the other physical, dependent at least in part on the syncytial arrangement of primitive cells. The violation of this "barrier" and the escape of nucleated red blood cells signal the presence of a stimulus that is allowing the release of these cells, before they have passed through the intermediate reticulocyte stage, to become adult red blood cells ready for the circulation. An abnormal demand for red blood cells produces an outpouring into the peripheral blood of all cellular elements, because there is a certain amount of nonspecific stimulation that will increase the white blood cells with a concomitant increase in primitive white blood cells. The specific stimulation will bring an increase in young red blood cells and the reticulocytes and, in the severe case, an increase in nucleated red blood cells, which is the point of interest here.

Stimuli sufficient to cause nucleated red blood cells to cross the barrier between the marrow and the general circulation are (1) hemorrhage, (2) hemolysis, (3) pernicious anemia, (4) marrow displacement, which may be intrinsic or extrinsic, (5) anoxia from other causes, and (6) a diverse miscellaneous group of conditions that will be listed specifically later. Our interest in the significance of nucleated red blood cells in the peripheral blood was aroused by the remarkably high incidence of death that was noticed in a group of patients in whom this phenomenon had been observed. The present study, which revealed a mortality of almost 50% among patients in whom nucleated red blood cells appeared in the peripheral blood, confirmed this correlation.

EARLIER OBSERVATIONS

It was not until the end of the last century that nucleated red blood cells were observed to be present in the peripheral blood in certain diseases: Von Noorden, quoted by Da Costa,[1] in 1891 emphasized the presence of showers of nucleated red blood cells in cases of chlorosis. Da Costa interpreted these blood crises as a favorable sign indicating regeneration of blood and therefore indicating an increase in red blood cells and the hemoglobin level. Bramwell [2] saw nucleated blood cells in the peripheral blood as being indicative of an excessive or imperfect blood formation, an effort on the part of nature to compensate for increased corpuscular destruction. He cited experimental work in which nucleated red blood cells were made to appear in the peripheral blood of animals by bleeding them. In 1904 Cabot [3] noted that nucleated red blood cells occur in patients with severe infections and cited a fatal case of pneumonia with empyema in which the patient had a red blood cell count of 4,500,000. Cabot also noted that these nucleated cells were frequently present in cases of carcinoma even though an adequate red blood cell count and amount of hemoglobin were present. We now generally tend to think first of erythroblastosis fetalis, of Mediterranean anemia, and the other hemolytic anemias in connection with nucleated red blood cells in the peripheral blood. Diamond [4] had pointed out, however, that infectious diseases such as syphilis must be ruled out when erythroblastosis is suggested, before a diagnosis is made. In 1948 Groen and Godfried [5] observed that the prognosis is poor when nucleated red blood cells occur in the peripheral blood in congestive heart failure. In all the cases mentioned by these men, thrombi were found in the lungs, and cyanosis was a prominent clinical sign. Our studies confirm Groen and Godfried's observation with regard to prognosis.

MATERIAL AND RESULTS OF STUDY

The records of the Department of Hematology of the Cook County Hospital, Chicago, were reviewed for a 10 year period from 1941 to 1951. There were 1,496 cases in which nucleated red blood cells had been recorded during that time. In each of the 1,496 cases, the records showed whether the patient died while in the hospital or was discharged after therapy. Hemorrhage was the leading cause of nucleated red blood cells in the peripheral blood, and the most frequent lesion was a duodenal or gastric ulcer. Varices due to cirrhosis were next in order of frequency, and uterine bleeding was third. There were five cases of genitourinary bleeding of sufficient severity to produce

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This study was aided by grants from the Olivia Sue Dvore and Edward Friedman foundations.

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nucleated red blood cells in the peripheral blood. Also included in this category were several cases of thrombocytopenic purpura and one case of Rendu-Osler-Weber disease. The gross mortality in this group was 36%. The second largest group exhibiting nucleated red blood cells in the peripheral blood were patients with pernicious anemia. It is notable that in this condition for which intensive treatment was employed and specific therapeutic agents were available, the mortality was still 29%. Patients with carcinoma comprised the third largest group, with an over-all mortality of 61%. This suggests that by the time nucleated red blood cells appear in the blood the carcinoma is well advanced, that is, it has led to either considerable anemia or extensive involvement of the marrow.

Among the cases of blood dyscrasias, acute and chronic myelogenous leukemia produced by far the largest number of nucleated red blood cells in peripheral blood. Of the 154 cases in this group, 90 were due to myelogenous leukemia and were equally divided between the acute and chronic forms. There were 21 cases of chronic lymphatic leukemia and the others were about equally distributed among lymphosarcoma, monocytic leukemia, reticulo-

Conditions in Which Nucleated Red Blood Cells Were Found in the Peripheral Blood

Condition	No. of Patients	No. Who Lived	No. Who Died	Percentage of Deaths
Hemorrhage	361	231	130	36
Pernicious anemia	270	192	78	29
Carcinoma	224	88	136	61
Cardiac conditions	195	65	130	66
Leukemia and related conditions	154	37	117	76
Infections	115	49	66	57
Hemolytic anemia	86	69	17	20
Miscellaneous (cerebral vascular accidents, diabetes, etc.)	91	45	46	50
Total	1,496	776	720	48

endotheliosis, Hodgkin's disease, acute lymphatic leukemia, and multiple myeloma. It is hardly surprising that the mortality in this group should have been the highest, 76%. In the group with hemolytic anemia, sickle cell anemia was present in 64 cases out of the 86. The remaining cases consisted of congenital and acquired hemolytic anemia and Mediterranean anemia. The mortality rate in this group was the lowest, but even here it was 20%. The miscellaneous group contained such diverse conditions as lead, phosphorus, arsenic, and gas poisoning; diabetes; polycythemia; myxedema; hyperthyroidism; lupus erythematosus; osteitis deformans; methemoglobinemia; and cerebral vascular accidents. Cerebral vascular accident was the largest single cause of the appearance of nucleated red blood cells in this group, and only one in 17 patients survived. It is of interest that in this diverse group the mortality rate is 50%, which is almost the average for the entire group included in this study.

Examination of data for two groups, 195 patients who had cardiac conditions and 115 who had infections, reveals that the gross mortality in the former was 66% and in the latter 57%. In an attempt to evaluate these cases more particularly, all complicated cases and, in particular, any in which the number of red blood cells of patients was below 3,500,000 or in which hemoglobin levels were below 10.9 gm. (70%) were eliminated. Excluded also from the group with cardiac conditions were those in whom anemia was due to uremia. Even with this critical selection the percentage of deaths remained high. The number of nucleated red blood cells in the remaining group of 93 patients varied from 1 to 19 per 100 white blood cells counted; usually there were less than 4 nucleated red blood cells per 100. Two of the cardiac conditions were caused by heart disease due to syphilis, and seven were listed as cor pulmonale. The remainder of these cases were evenly divided among rheumatic heart disease, arteriosclerotic coronary disease, and hypertensive heart disease. Of these patients, 41% failed to recover. After selective exclusion, 42 patients remained in the group with infectious diseases. The number of nucleated red blood cells varied from 1 to 9 per 100 white blood cells. Pneumonia was the diagnosis in 28 of the 42 cases, and 5 cases were diagnosed as tuberculosis. Various bacterial infections made up the remainder. Forty-five per cent of these patients died.

CONCLUSIONS

The presence of nucleated red blood cells in the peripheral blood is generally a sign that the prognosis is poor, as evidenced by the appalling mortality rate of almost 50% in the present study. Our findings would indicate that this is also true in cases of cardiac disease and in infectious diseases, especially when anoxia is produced. It is worth repeating for emphasis that, of 93 patients with cardiac conditions in the selected group, 41% died, and in the total group of 195 patients, 66% did not survive when nucleated red blood cells appeared in the peripheral blood. The relatively large number of deaths in the infectious group, particularly from pneumonia, was unexpected. Of 115 cases in which infections comprised the principal cause of nucleated red blood cells in the peripheral blood, 57% were fatal, and, of the specially selected group of 42, 45% were fatal. Anoxia is evidently a dominant influence here as it is in the group of patients with cardiac conditions. Because of the nature of the underlying conditions, the prognosis is better in hemolytic anemia, hemorrhage, and pernicious anemia. The presence of cases in which bleeding was a consequence of cirrhosis of the liver raised the percentage of fatalities in the hemorrhagic group. The prognosis is least good in carcinomatosis and leukemia.

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Boric Acid.—It is incredible that a drug with such toxic propensities and doubtful therapeutic value should continue to enjoy such popularity in the armamentarium of so many physicians and occupy such a prominent place in the home medicine cabinets. Perhaps the explanation of this paradox is . . . that many topical agents survive as therapeutic agents, not so much in their power to do good, but in their failure to do harm. Apart from accidental poisoning with boric acid there should be greater awareness on the part of the medical profession and laity of the toxic effects of absorption of boric acid from broken skin surfaces and mucous membranes. . . . Boric acid should be replaced in medical practice with more efficient and safer medication, and pharmaceutical houses should cooperate in an educational campaign to acquaint the public of its potential danger.—H. G. Poncher, M.D., Boric Acid, *The Journal of Pediatrics*, December, 1953.

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ACTIVE RHEUMATIC HEART DISEASE IN PATIENTS OVER SIXTY

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Rheumatic activity is not often considered in dealing with patients over 60 years of age, although evidences of old rheumatic involvement of the heart are common findings at autopsy in this age group. Acute rheumatic heart disease is usually a disease of children and young adults. Cohn and Lingg [1] made a study of 12,000 patients in New York City who had rheumatic heart disease. They found that only 16% of these patients were in the age groups past 45, and only 3% of the total 12,000 were first affected after the age of 45. Their statistics indicated that the mean age of onset in men was 14.5 ± 0.3 years and in women it was 15.0 ± 0.3 years. Children and young adults often present the typical "textbook" picture of fever, migratory polyarthritis, carditis, electrocardiographic changes, leukocytosis, and increased sedimentation rate. Older patients may not present all these signs, and hence the diagnosis is more difficult.

Rogers and Robbins [2] reviewed 41 cases of active rheumatic myocarditis in which the diagnosis was proved pathologically. In 20 of the patients they found that the usual clinical manifestation of rheumatic activity were sufficiently evident to permit a correct clinical diagnosis. Moreover, most of these patients were in the first two decades of life. It is most interesting that the characteristic feature of the 21 cases in which active rheumatic disease was not diagnosed is that the patients averaged 53 years of age and that all but five of these patients were over 40 years of age. They attributed the difficulty in diagnosing rheumatic activity in older age patients to at least three factors: (1) the atypical form that the disease may take, (2) the fact that active rheumatic myocarditis as a cause of cardiac failure may be obscured by conditions more commonly met with in this age group, notably hypertension, arteriosclerosis, and healed rheumatic valvular disease, and (3) the fact that in certain instances the disease may be entirely silent.

Several other papers of interest in this field have appeared over the past 10 years. Rosenthal and Feigin [3] classified the mitral valves at autopsy of 177 consecutive patients over 40 years of age. Eighty-one of these valves were found to be abnormal. In 32 instances the abnormality of the valves was caused by rheumatic disease; in 7 it was classified as acute, in 8 as chronic, and in 17 as healed. A positive history of rheumatic disease was noted in only five cases. Greene and Bennett [4] reported the case of an initial attack of rheumatic heart disease in a 61-year-old white man; the case was characterized by complete heart block and Stokes-Adams syndrome. Rakov and Taylor [5] reported a case of acute rheumatic fever in a woman 61 years of age; this case was characterized by attacks of paroxysmal nocturnal dyspnea associated with congestive heart failure and due to extensive acute rheumatic myocarditis. Kaufman and Poliakoff [6] found 50 cases of rheumatic heart disease among 263 consecutive autopsies in patients between the ages of 40 and 81. Active rheumatic heart disease was the chief cause of death in at least 32% of this series of 50 cases, as evidenced by clinical signs of activity and autopsy findings. Four cases are presented, the youngest being 62 years and the oldest 76 years of age.

REPORT OF CASES

CASE 1.—A 62-year-old white woman was admitted to the Presbyterian Hospital with a history of recent weight loss, loss of strength, dyspnea, and swollen ankles. She had been under treatment for what was considered to be arteriosclerotic heart disease for many years and had been known to have left bundle branch block for at least four years. She was thought to have a dilated aorta in the ascending and arch portions. Her blood pressure had been consistently high. Eleven years before her admission it was 216/120 mm. Hg. The diastolic pressure over the years seldom went below 100 and usually was 110 to 140. At the time of hospitalization, the blood pressure was 160/95. Temperature was 99.8 F, pulse rate 102 beats per minute, and respirations 24 per minute. The lungs were clear. The heart was enlarged to the left. There was a normal sinus rhythm. There was an apical systolic murmur that was transmitted to the base. The ankles were slightly puffy.

Routine urinalysis revealed 1+ albuminuria, some dark granular casts, and a few pus cells. Her blood cell count was not remarkable. The sedimentation rate (Westergren) was 26 mm. in one hour on one occasion and 3 mm. on another. The Wassermann test was negative. Four blood cultures made over a period of 27 days were negative after 10 days of incubation. Chest roentgenograms revealed marked widening and tortuosity of the descending and arch portions of the aorta, slight ventricular hypertrophy and normal lung fields. Electrocardiographic tracing showed a left bundle branch block. The patient was digitalized and for a time seemed to be well compensated. She continued to have a low-grade fever, however, and a diagnosis of subacute bacterial endocarditis was entertained. On the seventh hospital day, she had some calf tenderness suggestive of phlebothrombosis. On the 27th hospital day, a protodiastolic gallop was noted. The patient became increasingly restless, and respirations suddenly ceased on the 34th hospital day.

At autopsy the heart showed gross and microscopic evidence of active rheumatic heart disease. The mitral valve was thickened and slightly contracted; the chordae tendineae were thickened and shortened. On the auricular surface of the valve were two small verrucae, which on microscopic examination appeared to be of rheumatic origin. There was no evidence of a superimposed bacterial infection. Evidence of a reactivated rheumatic involvement of the myocardium was manifested by scattered Aschoff's nodules. Death was undoubtedly caused by a disturbance of the conduction system by the

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rheumatic process, and the final autopsy diagnosis made by Dr. Philip Custer's pathology group at the Presbyterian Hospital was, "chronic rheumatic heart disease reactivated."

CASE 2.—A 76-year-old white pharmacist was admitted with a history of mild arthritic changes of two years' duration and acute exacerbation of all symptoms during the past month. Five months previously he had been forced to give up his pharmacy because of increasing pain and stiffness of the fingers plus general fatigue. About one month prior to admission, his right hand had become swollen and painful, his right knee became stiff, he had much back and shoulder pain, and there was an almost constant pain in the left side of his chest. The left arm and leg were also painful and stiff. On examination the following findings were reported: blood pressure 120/80, temperature 100 F, respirations 24 per minute, and pulse rate 112 beats per minute. Although the patient was complaining of labored breathing, the lungs were clear to physical examination. The heart was not enlarged. There was a normal sinus rhythm, and no murmurs were heard. The right hand was swollen and warm, with limitation of finger motion and great tenderness to palpation. The left hand and the right elbow were stiffened, but there was no tenderness or swelling. Both shoulders were painful and showed limitation of motion. The right knee was swollen, stiff, and painful. The ankles were swollen, although no pitting edema was noted.

Laboratory studies showed normal urine. The blood count was within the normal range. The sedimentation rate (Westergren) was noted on two occasions to be 116 mm. per hour and 125 mm. per hour. Blood culture was negative. The electrocardiographic tracing was suggestive only of mild chronic myocardial change. There was no prolongation of auriculoventricular conduction, and the rhythm was sinus tachycardia. Roentgenograms showed degenerative arthritic changes with generalized demineralization. The chest roentgenogram was interpreted as showing pneumonitis in the lower lobe of the left lung.

Initially it was thought that this man had acute rheumatoid arthritis. With the picture of fever, joint involvement, and high sedimentation rate, however, a tentative diagnosis of acute rheumatic fever was made. A trial of salicylate therapy was undertaken, after which the temperature was lowered and the joint symptoms disappeared but the tachycardia and the high sedimentation rate persisted. Later bronchopneumonia developed that did not respond to antibiotics, and he died on the 28th hospital day.

At autopsy recurrent rheumatic pancarditis was found. The pericardium was bound to the epicardium by loose edematous fibrous tissue. The reddish-brown myocardium was very flabby. The tricuspid valve had several small nodules on the free margin of the leaflet and short thick chordae tendineae. One mitral leaflet also had a nodule on the free edge with many minute rugae at the line of coarctation. Chordae tendineae were thickened. Interadherence of the commissures and thickening of the cusps of the aortic valve was also noted. Occasional Aschoff bodies were scattered throughout the myocardium. Additional findings included advanced bronchopneumonia. The postmortem diagnosis made by Dr. Custer's pathology group at the Presbyterian Hospital was "recurrent acute rheumatic fever with active pancarditis and bronchopneumonia."

CASE 3.—A 74-year-old white woman was admitted to the hospital with a history of fatigue and fever of eight days' duration. She had had one admission seven years previously for virus pneumonia. Penicillin therapy prior to the present admission had not been effective in relieving her symptoms. The following pertinent physical findings were present at the time of admission: blood pressure 170/70, pulse rate 80 beats per minute, respirations 18 per minute, and temperature 100 F. There was dulness to percussion and bronchial breathing over the lower lobe of the left lung. The heart was enlarged to the left. Systolic murmurs of low intensity were heard at the aortic, pulmonic, and apical areas.

Blood studies revealed a hemoglobin level of 12.9 gm. per 100 cc., 4,200,000 red blood cells, and 19,200 white blood cells. Differential count showed 68% filamented and 16% nonfilamented neutrophils, 1% eosinophils, 12% lymphocytes, and 3% monocytes. The sedimentation rate was 107 mm. (Westergren) in one hour. Blood culture was negative. The electrocardiographic tracing showed only left ventricular preponderance. Chest roentgenograms showed a slight cardiac and aortic enlargement. There was generalized fibrosis and emphysema in both lungs and a suggestion of pleuritis on the left side. Through most of her 17 day hospital course, this patient had a low-grade fever, with temperature ranging from 99.4 F to 102.8 F. There was frequent spiking in the evening, and occasionally the temperature came to normal. She received chlortetracycline (Aureomycin) and penicillin in adequate dosage without effect. After administration of 60 grains (4 gm.) of aspirin a day, her temperature was reduced to normal and all of her symptoms disappeared.

After discharge from the hospital, the patient was followed very carefully. At the time of writing, two and a half years later, she was in good health. She still had the heart murmur noted at the time of admission to the hospital. Although this patient gave no history of rheumatic fever, it was felt that her heart murmurs resulted from chronic rheumatic carditis and that this episode probably was due to recurrent acute rheumatic fever. A good therapeutic effect following the use of salicylates favored this diagnosis.

CASE 4.—A 68-year-old white woman was admitted to the hospital with a history of chills, fever, and gingival cellulitis after dental extraction 19 days previously. The gingival cellulitis cleared up with penicillin therapy before admission to the hospital but chills and fever recurred. She complained also of weakness and fatigue. Previous diagnoses included bronchiectasis in 1935, chronic cor pulmonale, and probable carcinoma of the left breast treated with roentgen irradiation in 1951. On the present admission physical findings showed a temperature of 99.6 F, pulse of 120 beats per minute, respirations 22 per minute, and blood pressure 128/74 mm. Hg. Scattered crepitant rales were heard at both lung bases. A grade 1 mitral systolic murmur was heard. The left breast area showed postirradiation changes.

The urine contained a trace of albumin and had a low specific gravity. Three blood cell counts were essentially normal. The sedimentation rate (Westergren) on two occasions was 70 mm. per hour and 80 mm. per hour. Repeated blood cultures were negative. The electrocardiographic tracing showed right ventricular hypertrophy, the type commonly seen with cor pulmonale. The patient continued to have a low-grade fever, with temperature ranging from 99.6 to 100.8 F, that did not respond to large doses of penicillin or penicillin plus streptomycin. She had one episode of paroxysmal auricular fibrillation while in the hospital. The diagnosis of acute rheumatic fever was considered, and the patient was given ample doses of salicylates, after which her temperature rapidly returned to normal and she improved symptomatically. She continued to do well, and six months after discharge, although no murmur was heard, mild congestive failure had to be controlled with digitalis and mercurial diuretics. She still had periodic episodes when the old bronchiectatic infections flared up, and she was never without some cough and expectoration. Although there is no definite proof that this episode was a reactivation of a previous rheumatic infection, it is interesting to consider the possible relationship between the oral infection and the onset of this episode, as well as the response to salicylates after failure of antibiotics.

COMMENT

With the present day trend toward prophylaxis, more and more persons who have had rheumatic fever as children are living to advanced ages. Because of the tendency toward antibiotic therapy many persons with rheumatic heart disease, whether it was recognized or not, receive a form of prophylactic treatment every time they see their physician for relief of any acute infection. Therefore, the problem of the elderly person with rheumatic heart dis-

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ease and possible reactivation of the rheumatic state will be increasingly important in the future. In a person of advanced years who has a history or clinical signs of previous rheumatic fever, the diagnosis of recurrence should certainly be strongly considered when symptoms and signs fail to respond to the present day "shotgun" prescriptions of antibiotics. The findings by Janton [7] and his associates are significant. They found that there was histological evidence of rheumatic activity in 14 of 88 amputated appendages in cases of rheumatic heart disease that was supposedly quiescent. They point out that a higher incidence of rheumatic stigmas might have been expected if the myocardium proper had also been examined. It is probably true that rheumatic fever is never completely healed but can be reactivated in a susceptible person at any age by the same factors responsible for recurrence in a younger person.

SUMMARY AND CONCLUSIONS

Active rheumatic fever with cardiac involvement does occur in patients over 60 but is often clinically undiagnosed. Since the disease often presents an atypical picture in this age group, the diagnosis may depend on the detection and proper evaluation of isolated rheumatic phenomena and on the response to salicylate therapy. Active rheumatic carditis should be considered as a possible cause of cardiac decompensation in older patients. Two such cases are reported in which the diagnosis was proved by autopsy, and the histories of two additional patients who recovered and in whom the diagnosis is not so certain but quite likely are given.

3719 Chestnut St. (4) (Dr. Kitchell).

7. Janton, O. H., and others: Results of the Surgical Treatment for Mitral Stenosis: Analysis of One Hundred Consecutive Cases, Circulation 6: 321 (Sept.) 1952.

ROUTINE TONOMETRY AS PART OF THE PHYSICAL EXAMINATION

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From the viewpoint of most general practitioners, the diagnosis of ocular disease requires equipment and training that are out of proportion to their productivity. Consequently, the responsibility for both diagnosis and treatment of ocular diseases has been left to the eye specialist by common consent. Such an arrangement might be satisfactory if the more serious progressive ocular problems were promptly recognized and referred for care as soon as they became manifest. Such is not the case however, for one of us (L. C.) has found that an appreciable percentage of the blind and near-blind patients examined in the outpatient clinic of the University of Oregon Medical School had previously passed unrecognized through practitioners' offices, clinics, and hospitals while their disease was in an active phase.[1] This was particularly true of chronic glaucoma, in which adequate therapy depends on early recognition. At least 20,000 persons (15% of the blind population) in this country are totally blind from glaucoma, and an additional 150,000 are blind in one eye.[2] Of greater importance are the estimated 1 million persons (approximately 2% of persons over 40 years of age) in the United States who have chronic glaucoma and do not know it.[3] With increased longevity, this number will tend to increase.

Onset of the glaucoma complex may range from painless and insidious loss of vision in the peripheral visual field to a violent, explosive reaction in which there is severe pain, rapid depression of visual acuity, nausea and vomiting. It is the chronic type of glaucoma with an insidious onset that is of principal interest in the present discussion, since this disease is often encountered, but rarely recognized, in a practitioner's office. Regardless of the cause of glaucoma, there is one sign common to a high percentage of cases. This is an ocular tension above the average limits. Reasonably accurate ocular tensions may be obtained with any one of several types of tonometers, and this procedure does not usually require more than two or three minutes. It is the purpose of this paper to show that tonometry can be performed easily and with productive results by all practitioners. Unfortunately, it will not be an established procedure included in the physical examination until there is a change in the present attitude of teachers and practitioners outside the specialty of ophthalmology.

During the period from July 1, 1951, to June 30, 1952, inclusive, a dual study was conducted on interns and patients admitted to Multnomah County Hospital, the major teaching hospital of the University of Oregon Medical School. Our intent was to determine whether interns without a special interest in ophthalmology could be trained to determine ocular tensions with reasonable accuracy using a standard Schiøtz tonometer. Also, we were interested in the interns' reactions concerning the desirability of measuring ocular tensions as a routine part of a physical examination.

The interns who participated in this study were from schools of the Middle West and East as well as of the far west. The rotation of interns placed a new man on the eye service every month, and his time was shared with the ear, nose, and throat service. Each new doctor coming on the service was informed of the incidence and natural history of glaucoma and was then given approximately 10 minutes of instruction on the use of the Schiøtz tonometer. He was asked to take as many measurements on

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1. Christensen, L.: To be published.

2. Schoenberg, M. J.: Report of the Progress of the Glaucoma Campaign During the Past Three Years, New York J. Med. 45: 738-740, 1945.

3. Berens, C., and Tolman, C. P.: Prevention of Blindness from Glaucoma, Internat. Ophth. Cong. 2: 1499-1503, 1950; Ocular Hypertension Indicator, J. A. M. A. 142: 1360 (April 29) 1950.

newly hospitalized patients as possible and was deliberately left with the impression that the sole purpose of this procedure was to locate new cases in the hospital population. He was urged to utilize all facilities and seek help from any member of the ophthalmology department whenever he desired and was interviewed by one of us (R. Z.) at least once a week. A fraction of the normal tensions and all those exceeding 25 mm. Hg (Schiøtz) obtained by the interns were checked to verify their accuracy. As each intern finished his service, he was interviewed to determine his attitude concerning tonometry in his future practice.

RESULTS

The phrase "as many as possible" meant to some interns that they made no measurement of tensions at all and to others that they made as many as 140 determinations of tensions during a four week period. A total of over 1,000 determinations was reported by the 12 interns. None of the reported normal tensions was found to be abnormally high on the spot checks. Sixty of the tensions were over 25 mm. Hg. Seventeen of the 60 were verified on reexamination by one of us. These were then referred to the regular eye clinic of the University of Oregon Medical School for further study and treatment. Any intern who had recorded more than 30 or 40 tensions felt confident of his results. Those who had recorded fewer expressed doubts as to the accuracy of the results. Most felt that they were unable to eliminate squeezing of the lids as a source of error. In general, it was the impression of the ophthalmology faculty that the tonometric measurements taken by the interns were fairly accurate when the intern had taken more than just a few of these measurements.

The wide variation in the number of tension measurements taken by different interns (zero to 140) raised the question of motivation. Those interns who had determined only a few pleaded that their other duties prevented them from doing this work. One asked, in a rather hostile manner, why he was being requested to do this task in addition to his other duties. His implication was that the measurement of an ocular tension was a nuisance and would be of no value to him in his future practice. Even those who had done a substantial number of determinations gave the impression that they considered the whole study somewhat wasteful of their time. They regarded it as a duty rather than as something from which their patients might profit in future years. It was apparent that the interns preferred to do another tonsillectomy or pack another nose than to spend the time acquiring a new skill that they felt was unimportant. This was borne out by the fact that not one checked a tension, to our knowledge, after leaving the service.

The question then arose as to why those interns considered the measurement of ocular tensions unimportant, even when they seemed aware that glaucoma was a common disease that often led to total visual disability. Their attitude appeared to reflect that of the faculty of the schools from which they graduated. Their only exposure to ocular problems and the only demands made on their knowledge of ocular diseases was by the ophthalmology faculty of their medical schools. The medical and surgical faculties had ignored glaucoma in their teaching and did not require the determination of ocular tension in their case work-ups.

Apparently the interns' concept of what constituted a complete physical examination had already become fixed. This was evidenced in many ways; for example, none seemed hesitant to order a chest roentgenogram of a patient to rule out tuberculosis. They were unaware that they might have to order several hundred chest plates before they could detect a single active new case.[3a] A similar attitude was held toward syphilis. Serologic examinations for syphilis are routine for every hospital admission; yet, the interns did not know that the state laboratory in Oregon had to examine 1,000 blood samples to find 30 positive tests.[4] These positive tests would include all the false positive and all the repeat blood tests done on known cases. There were in Oregon in 1950 only 17 unknown cases of syphilis per 100,000 patients in contrast to 2,000 cases of glaucoma in every 100,000 persons over the age of 40.[5]

This high incidence of glaucoma indicates that use of tonometry on persons over 40 may bring about detection of a higher percentage of physical abnormality than many other procedures of the routine physical examination. It is also more productive from the viewpoint of therapy. This may be illustrated by comparing tonometry with determination of blood pressure. Any physical examination that omitted determination of the blood pressure would not be considered complete by either the patient or the doctor. This is true because both have been trained to think in these terms; however, when one considers the end result of missing a case of hypertension and of missing a case of glaucoma, it is apparent that there is a significant difference. Therapy instituted early in a patient with hypertension is less likely to modify the end results than early therapy in glaucoma. In the latter instance, a diagnosis a few months earlier may mean prevention of severe irreversible disability.

Despite these facts and the results of their own experience, these interns were not impressed, and it became apparent that, to introduce tonometry successfully as a part of a physical examination on an adult, the value of tonometry must be taught before the internship and instruction in tonometry must be demanded by members of the faculty other than those in the ophthalmology department. If the ophthalmologists on medical school faculties are to be successful in teaching medical students the importance of glaucoma they must first teach their faculty colleagues that any practitioner can no more justifiably dissociate the body from the eye than the ophthalmologist can dissociate the eye from the body.

SUMMARY

On the basis of a study of 1,000 determinations of ocular tension made by interns at the Multnomah County Hospital (a teaching hospital of the University of Oregon Medical School), the following conclusions are drawn:

3a. Director of Tuberculosis Survey Center, Portland, Ore.: Personal communication to the authors.

4. Oregon State Board of Health: Personal communication to the authors.

5. Director of Laboratories, Oregon State Board of Health: Personal communication to the authors.

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Interns without special interest in ophthalmology can make accurate measurement of ocular tensions. Determination of these tensions as part of the routine physical examination offers the best means of discovering glaucoma in the 2% of persons over 40 who have the disease. The concept of what constitutes a complete physical examination must include tonometry before the 1 million undiagnosed glaucomas can be detected and patients prevented from having irreparable disability.

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MANAGEMENT OF ULCER PATIENTS AFTER VAGOTOMY

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A seven year experience with more than 800 vagotomies for peptic ulcer at the Veterans Administration Hospital, Long Beach, Calif., has shown that success with this procedure depends on the following factors: (1) proper selection of cases,[1] (2) skill and experience of the surgeon in achieving a complete vagotomy, (3) incorporation of an adequate pyloroplasty,[2] and (4) careful and prolonged postoperative management of the patient until gastrointestinal function is readjusted.

An adequate vagotomy that results in the healing of an ulcer creates certain alterations in the autonomic nervous control of the gastrointestinal tract. These changes are variable from patient to patient. In the vast majority of patients they are minimal and transient. In some, however, they are severe and prolonged. In this latter group, if proper attention is paid to the early symptoms and follow-up x-ray studies, methods of management can be used that lead to the restoration of normal function. The management of the patient during the early postoperative months may determine the success or failure of the operative procedure. Seldom is this period of readjustment extended beyond the first postoperative year. In this paper we wish to discuss this important postoperative phase of the patient who has undergone vagotomy.

IMMEDIATE POSTOPERATIVE CARE

In addition to general measures such as early ambulation, supervised leg exercises, deep breathing and coughing, and the minimal use of narcotics, the immediate postoperative care is concerned with the use of nasogastric suction and special dietary measures. A nasogastric tube is inserted the evening before surgery. This is left in place for the first five postoperative days, during which time the nutrition of the patient is maintained by parenteral alimentation. After the tube has been removed, the patient is given clear, bland liquids in small quantities for two days, after which a full bland liquid diet is allowed. Two days later a soft bland diet is started in small amounts if the patient has tolerated the liquid diet. The soft bland diet is continued for two weeks or longer and is then gradually increased to a regular bland diet, which is continued until it is changed by the physician. If signs or symptoms of gastric retention occur, the diet is changed to liquids in small quantities.

POSSIBLE COMPLICATIONS

Cardiospasm.—Cardiospasm is an infrequent complication following vagotomy. It usually has its onset within the first postoperative week and lasts from a few hours to several weeks. The symptoms may be disturbing, but they are not incapacitating. The patient is usually relieved by adherence to a soft, well-masticated diet in which each meal is preceded by a glass of warm liquid, usually tea or water, sipped slowly. In patients with a more intractable type of cardiospasm, phenobarbital, 0.5 grain three times daily for a week or two, has been helpful in regulating the general state. In patients with the rare, severe type of cardiospasm, a 1% solution of procaine (30 cc.) mixed with a sufficient amount of psyllium seed mucilloid to make a thin gelatinous mixture, is swallowed before meals. This has been very effective clinically and has been shown fluoroscopically to relieve spasm.[3] So far in our series we have had no patient who has required management beyond these measures nor any patient who has had cardiospasm for longer than one month.

Gastric Retention.—The failure of the stomach to empty adequately after vagotomy is a more difficult problem. The indications for the treatment of inadequate emptying should be judged principally on the basis of symptoms, for most patients will show prolonged emptying times when checked roentgenologically although they have no complaints. Rarely severe degrees of gastric retention and dilatation occur with minimal symptoms, and these also should be treated.

The severity of the symptoms generally varies with the degree of retention. With delayed emptying the patient may complain only of postprandial fulness, which is usually of several hours' duration and which varies with the amount of intake. A change to small frequent feedings will usually bring prompt relief to these patients, and as the gastric tonus returns they can gradually return to a program of three feedings a day. A large intake of fluid will cause fulness as rapidly as more solid food; therefore patients are instructed not to drink excessively with their meals. If these dietary measures are unsuccessful and the fulness persists, bethanechol (Urecholin), in 5 to 10 mg. doses orally before meals, is

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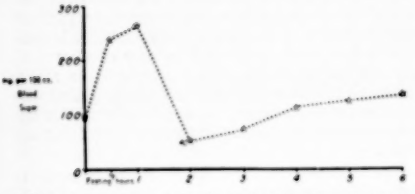
2. Wilkins, F. B.: Pyloroplasty for Gastric Drainage with Vagotomy, California Med. **78**: 513-514 (June) 1953.

3. Balfour, D. C., Jr., and Wharton, G. K.: Oral Procaine Hydrochloride for Relief of Cardiospasm: Preliminary Report, Gastroenterology **18**: 606-608 (Aug.) 1951. Roka, G., and Lajtha, L. G.: Abolition of Pyloric Spasm by Orally Administered Procaine Solutions, Brit. M. J. **1**: 1174-1176 (May) 1950.

usually efficacious. This dosage may be increased gradually to 20 mg. and may be continued for several weeks if necessary. Other parasympathomimetic drugs have not been as satisfactory in our experience.

When the retention is of a degree that these measures do not relieve the symptoms, the patient should be rehospitalized and given continuous nasogastric suction for 48 hours, followed by intermittent suction for another four days. After gastric tonus returns, the small frequent feedings should be started that are gradually increased over a period of several weeks to a full dietary regimen. If excessive fulness or vomiting occurs again at any time during this period, nasogastric suction should be reinstituted. Bethanechol is given in 10 mg. doses three or four times a day during this period. This dosage may be gradually increased to 20 mg. three or four times a day. In the past year, there have been two patients in the pyloroplasty group who failed to respond to the above management and required surgical intervention for control. Gastroenterostomy was added in one patient, although at the time of surgery no mechanical obstruction was observed at the pylorus. In the second patient, angulation due to an adhesion caused sufficient



Six hour glucose tolerance curve, showing hypoglycemia in patient who has undergone vagotomy and gastroenterostomy.

narrowing at the pylorus to produce obstruction. In this instance lysis of the adhesion and enlargement of the pylorus gave a satisfactory result.

Diarrhea.—Diarrhea after vagotomy remains a disturbing problem in a small percentage of patients, but its incidence has been reduced. The entire mechanism of diarrhea following vagotomy, with and without other surgical procedures, is not clear. Possibly an important causative factor in these patients is the sudden interruption of the balance between vagotonic and sympatheticotonic nervous influences on the small intestine. In some patients, it is possible that the reduction in gastric acidity following vagotomy predisposes to bacterial infection with consequent gastroenteritis owing to the lack of the bactericidal effect of acid. The fact that the use of antibiotics or the addition of hydrochloric acid by mouth has been of little therapeutic value argues against this possibility. Gastroscopic examinations in patients with a gastroenterostomy occasionally reveal a jejunitis accompanying the more commonly seen gastritis. In these situations the jejunitis may be a causative factor in producing diarrhea. It is possible that in some patients excessive retention of food contents in the stomach may predispose to diarrhea as a result of fermentative changes within the stomach.

The disturbance responds to dietary management in most cases. The size of the meals should be reduced and their frequency increased. In addition, the sugar content of the diet is reduced and salt is moderately restricted. Fluids are restricted with meals and are given in small amounts between meals as frequently as desired. Bethanechol at meal time may be beneficial and should be tried in patients with refractory diarrhea. An initial oral dose of 5 or 10 mg. is given with each meal and is gradually increased to a maximum of 20 mg. One must be careful to avoid overstimulation, which may result in overproduction of gastric acid or hypermotility. In those patients in whom a severe postoperative gastritis with jejunitis has developed as a result of a gastroenterostomy, serious consideration should be given to taking down this abnormal communication and substituting a pyloroplasty for it. In rare instances there are patients who continue to have intractable diarrhea in spite of the above treatment. Fortunately, they maintain an adequate nutritional status and are not greatly handicapped by this symptom. The entire gamut of antidiarrheal measures should then be tried in order to effect some degree of control on an empirical basis.

Dumping Syndrome and Hypoglycemic Reactions.—In a previous communication,[4] we reported that 81 patients in a group of 350 undergoing vagotomy had postprandial symptoms of headache, nervousness, sweats, hunger feelings, faintness, and dizziness closely mimicking hypoglycemic reactions. We used the general term hypoglycemic syndrome to describe these patients, although only some of them actually had demonstrable hypoglycemia during attacks.

There has been much speculation on the cause of this syndrome. Machella [5] considers the major cause to be an overdistention of the small intestine as a result of rapid dumping of hypertonic solutions into an atonic small intestine. In our experience similar symptoms have also occurred in patients who had vagotomy alone or vagotomy with pyloroplasty. We have demonstrated actual hypoglycemia in some of these patients whom we have studied in the hospital. The chart shows a typical six hour oral glucose tolerance curve in such a patient. In the treatment of this syndrome, the diet should be modified so that the meals are small and frequent and have a considerable reduction in the free sugar content. The worst form of management is to simply advise patients to "take a sweet during attacks." This only reinforces a vicious circle of reactions. In our hospital we use two types of diet, depending on the severity of the disturbance. The first type is used only for patients who require hospitalization. The principle of this diet is the reduction of the carbohydrate content to around 200 gm. and an absolute withdrawal of carbohydrates in the form of the freely soluble monosaccharides and disaccharides. The diet is relatively high in protein and fat. The fluid intake with meals is restricted, but fluids are allowed in small frequent quantities between meals. In patients with less severe forms of hypoglycemia, the total carbohydrate

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5. Machella, T. E.: Symposium on Some Aspects of Peptic Ulcer: Mechanism of Post-Gastrectomy Dumping Syndrome, Gastroenterology **14**: 237-255 (Feb.) 1950.

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content need not be restricted but the free sugar content of the diet is eliminated. Fluids are restricted at meal time. The patient is instructed to eat slowly, to masticate his food thoroughly, and to avoid the ingestion of excessive amounts of food at any one meal.

SUMMARY

In the majority of patients, disturbing effects that may follow vagotomy are mild and of short duration. In those in whom significant symptoms develop, the early and continuous application of the principles of management outlined here will result in the restoration of well-being. In our opinion, a large proportion of the reported poor results after vagotomy is due to a failure in adequate postoperative management.

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CLINICAL NOTES

REHABILITATION OF A PATIENT WITH A HIGH CERVICAL CORD LESION

REPORT OF A CASE

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There is no more difficult problem in rehabilitation than that of a patient with a high section of the cervical cord. Patients with physiologically and/or anatomically complete cervical cord lesions above the fourth cervical vertebra do not survive without artificial respiration. Survival of patients with complete lesions between the fourth and fifth cervical vertebrae is becoming more frequent with present-day supportive therapy and a better understanding of respiratory physiology. The following case history demonstrates rehabilitation to maximal self-sufficiency in a patient with a physiologically complete lesion between the fourth and fifth cervical vertebrae.

REPORT OF A CASE

On July 6, 1952, the patient, a 15-year-old boy, dived into shallow water; immediate motor and sensory loss of his trunk and all four extremities resulted. During the following four to six hours, the patient had intermittent periods of unconsciousness and respiratory difficulty. Roentgenograms taken within two hours after the accident revealed normal body alignment of the cervical spine, with no evidence of fracture or subluxation. Lumbar puncture revealed bloody spinal fluid with slow dynamics. The sensory and motor level remained the same, and there was a bilateral Horner's syndrome, no sweating below the level of the lesion, and complete areflexia.

Immediate therapy consisted of the use of Crutchfield tongs with 2 to 3 lb. (0.9 to 1.3 kg.) weights and gravity bladder drainage. The patient was placed on a rubber mattress in the supine position and given general supportive therapy. Neurological signs remained unchanged. During the following two months, the patient's condition remained critical, with frequent episodes of respiratory embarrassment. Lumbar punctures were done weekly and revealed complete spinal fluid block with rising protein levels.

On Aug. 12, 1952, bilateral laminectomy of the third, fourth, and fifth cervical vertebrae demonstrated a fusiform enlargement of the cord at the lower limit of the fourth cervical bony segment down to the sixth. The dentate ligaments were cut, from the third through the sixth cervical vertebrae. A careful search revealed no mechanical obstruction. The dura was left open affording adequate decompression. Postoperatively the patient's general condition stabilized; the skull tongs were removed on the 56th hospital day; and the sensory level had dropped about one dermatome, but the motor level remained unchanged.

On Oct. 30, 1952, the patient was first admitted to the Institute of Physical Medicine and Rehabilitation, and it was noted that he was in excellent general condition, with essentially complete sensory and motor loss below the fifth cervical vertebra and flaccid paralysis. He had a superficial sacral ulcer, and a urethral Foley catheter was being used. There were no contractures. The boy's bowels were controlled with enemas three times a week.

Boy with high cervical cord lesion eating with arm rocker with spoon attachment.

A wheelchair with removable arms, reclining back, and adjustable leg rests was ordered. On Nov. 1, a program was initiated that included (1) muscle reeducation to all muscles above the lesion, (2) passive range of motion to all joints, (3) standing strapped to a tilt board, one hour daily, (4) functional exercises in a wheelchair with plastic wand in mouth, (5) feeding with arm rocker with spoon attachment (see figure), and (6) bowel training. On this daily program, the patient acquired limited skills and great pride in his abilities. The patient was discharged to his home with an attendant. With his acquired skills in painting and use of the electric typewriter and with an active mind, he should function as a productive citizen.

400 E. 34th St. (16).

National Foundation for Infantile Paralysis Fellow, Department of Physical Medicine and Rehabilitation, New York University College of Medicine.

J. Lawrence Cantwell, B.A., assisted in the study of the patient.

HYDROCORTISONE IN THERAPY OF POISON IVY DERMATITIS

Leon Goldman, M.D.
and
Robert H. Preston, M.D., Cincinnati

Dermatitis from poison ivy or from poison oak is still a common form of seasonal dermatitis in many portions of the country. For the hypersensitive person, the cutaneous reactions may be severe and may recur even with repeated episodes during a single season. Secondary complication, especially extensive pyogenic infection, may give rise to serious visceral involvement. There is as yet no good control program for the eradication of these poisonous plants on a community basis. Small local programs are possible with chemical measures of weed control. There are various techniques for preseasonal attempts at hyposensitization with extracts of these plants given orally or parenterally; however, from a purely clinical aspect, the symptomatic treatment of the acute dermatitis can give the patient considerable relief and can reduce the period of severe dermatitis.

In order to evaluate treatment of such a self-limited disorder as dermatitis from poison ivy or from poison oak, it is necessary that certain criteria be followed. 1. The dermatitis must be classified as mild, moderate, or severe. The rapid development of lesions after contact, the size of the lesions, the extent of spread, and the background of known hypersensitivity of patient to poison ivy or to poison oak should be considered in classifying the reaction. 2. Since this is a self-limited disorder, any therapy must be begun early, preferably within the first few days.

Our previous studies [1] have shown that, for such a brief severe uncomfortable episode as poison ivy dermatitis, the corticosteroids are very effective agents. In the original clinical investigative studies, poison ivy dermatitis was treated with corticosteroid only if the patient was seen early, only if the lesions were not infected, and only if the corticosteroid therapy was given for not more than five days. Many of these criteria cannot be followed in practical fashion in ordinary office practice, because patients may be seen after they have tried many other treatments and, under certain circumstances, because there is poor nursing care at home. The patients are still uncomfortable and consequently miserable. Also, the patient seen later may show evidence of secondary infection.

CLINICAL MATERIAL

Under these circumstances, a reevaluation was made of the cases of poison ivy treated with corticosteroids and observed in clinic and office practice during the past season. Hydrocortisone was given orally and in selected cases topically. Furthermore, an effort was made to compare and evaluate the results of hydrocortisone and cortisone given orally. The group studied included 47 patients; 3 with mild dermatitis, 15 with moderate dermatitis, and 29 with severe dermatitis. Dermatitis had been present for 2 days in 9 patients, for 2 to 5 days in 23, and for 5 to 10 days in 15 before hydrocortisone was given. After therapy with hydrocortisone, no change was noted in the dermatitis in 11 patients, but in 36 there was much improvement. The only side-reactions noted were two instances of fatigue in children, three instances of urticaria, and three of insomnia. In 22 instances in which the dermatitis was seen before it had been present for 24 hours, hydrocortisone ointment was applied with excellent results in 3 cases, slight change in 5 cases, and no change in 14 cases. The ointment was applied four times a day. In two patients given topical treatment, one with mild and one with severe dermatitis, a 2.5% hydrocortisone lotion was applied four times a day. There was an excellent result in the patient with mild dermatitis, but there was no change in the one with severe dermatitis. These figures show that, except for the patients selected for topical therapy, the patient with dermatitis who is apt to come to the physician is usually the one with severe dermatitis that will last for two to five days. No patients with obvious secondary pyogenic infection were included in this series.

Dosage.—The dosage level for adults was usually 100 or 120 mg. for the first two days in four or five divided doses, and then the dose was decreased 20 mg. on each of the following three days. In severe cases, the dosage was adjusted to the needs of the patient. An effort was made to prevent relapse by gradual reduction of the daily dose, still divided into four parts, through the fifth or sixth day. Potassium chloride was not given unless the medication was given for more than five days. Children were given comparative dosages; the small dosage forms of tablets, 10 and 5 mg. each, allow the daily dose to be divided into multiple parts.

Side-Reactions.—The reactions to therapy in this small, unselected series were mild, since the patients were usually healthy and the treatment course was usually brief. There appeared to be definite value for oral hydrocortisone therapy in this series of cases of poison ivy dermatitis. Three moderate cases of urticaria were observed. In each case, it occurred several days after the corticosteroid therapy was stopped. This was the first episode of urticaria in each patient. One patient related the urticaria to increased nervousness induced by the steroid; the other two patients believed the urticaria was due to severe sun exposure. In each instance, the urticaria was relieved by a brief course of antihistamine. There could be much speculation about mechanism, but actually the cause of the urticaria in any of these patients could not be found. In view of these mild reactions and the brief period of therapy, it was felt that such a strong medicament as hydrocortisone could be recommended, especially for the patient with severe poison ivy dermatitis.

COMMENT

No studies were done in this series concerning the effect of the drug on the "immunity mechanisms" in poison ivy dermatitis. The value of so-called quantitative patch testing is doubtful. Three patients in this series had more than two episodes of dermatitis in the same season. One

From the Department of Dermatology of the College of Medicine of the University of Cincinnati.

The hydrocortisone tablets, ointment, and lotions were furnished by Dr. Elmer Alpert, Merck & Company, Inc., Rahway, N. J.

1. Goldman, L., and Preston, R. H.: Oral Use of Compound F in Common Skin Disorders, Correspondence, J. A. M. A. **151**: 406 (Jan. 31) 1953.

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patient received small doses of hydrocortisone in an attempt to control the severity but not to suppress the entire reaction. This patient had repeated and severe episodes later, and each was controlled effectively with larger doses of hydrocortisone. In two other cases of known severe hypersensitivity, adequate and effective hydrocortisone therapy for the first episode of the season was followed by repeated episodes of severe dermatitis later in the same season.

SUMMARY AND CONCLUSIONS

In comparison with our previous work, hydrocortisone given orally is, dosage for dosage, more effective than cortisone given orally. We believe that hydrocortisone is two-thirds to one time more effective. The incidence of mild reactions was approximately the same for patients given cortisone as for those given hydrocortisone.

Hydrocortisone ointments have been shown by Sulzberger and his group [2] to have local action on the skin. In our experience, the lanolin base hydrocortisone ointment is more effective locally for inhibition of inflammation than hydrocortisone in other bases.

3493 Brookline Ave. (20) (Dr. Goldman).

2. Sulzberger, M.; Witten, V. H., and Smith, C. C.: Hydrocortisone (Compound F) Acetate Ointment in Dermatological Therapy, J. A. M. A. **151**: 468 (Feb. 7) 1953; Hydrocortisone (Compound F) Free Alcohol Ointment, Correspondence, ibid. **152**: 1456 (Aug. 8) 1953.

PLATFORM DEVICE FOR EXAMINATION AND INJECTION TREATMENT OF VARICOSE VEINS

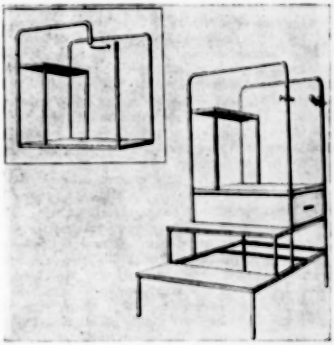
Robert A. Nabatoff, M.D., New York

It is becoming increasingly apparent that the most effective method of treatment for varicose veins is a complete stripping procedure.[1] This operation can be performed with the patient under local anesthesia, and he can be semiambulatory.[2] There are, however, certain indications for the injection treatment of varicosities. Injections of sclerosing solution are useful for the treatment of large nevi araneosi (spiders), and they are also of value after operation if there are any residual varicose vein segments.

While a great variety of techniques for the injection treatment of varicose veins has been described, most authors prefer the empty vein technique for the following reasons: 1. The irritant exerts its maximum effect when the vein is empty. 2. There is minimum postinjection reaction. 3. Large postinjection thrombi (which may take months to absorb) do not develop. The empty vein technique may be carried out effectively in the following manner. The patient stands erect when the needle is introduced, as the veins assume their greatest prominence with the patient in this position. As soon as the vein is punctured, the patient's leg is elevated to the horizontal position to empty the vein and the injection is given. In order to achieve the maximum sclerosing effect, the leg is held in the horizontal position for two to three minutes. After this, the patient stands and actively flexes and extends the foot. This maneuver accelerates the blood flow in the leg and produces a rapid dissipation of the sclerosing agent's irritating effect.

If the procedure is carried out with the patient standing on a stool, the physician usually has to stoop to an uncomfortably low position. Furthermore, it is difficult to elevate the leg for the injection without dislodging the needle. While the leg is being elevated, the patient is often in a precarious position that is dangerous if any untoward reaction occurs. With this in mind, a platform device has been constructed to facilitate the injection treatment of varicose veins (see figure).

The apparatus consists of a platform raised 30 in. above the floor with two steps leading up to it.[3] There



A platform device to facilitate the examination and injection treatment of varicose veins.

are two side bars for the support of the patient; the one adjacent to the steps is detachable. A seat is fastened between the back portions of the side bars, and there is an adjustable leg support for the front of each bar. There is a 4 in. deep drawer just below the platform, which holds all necessary equipment. As the patient ascends the steps, he swings the bar aside to reach the platform. He stands erect as the physician introduces the needle into the vein. The leg is then elevated until the vein is empty, and the sclerosing solution is injected. With his leg still elevated, the patient gradually assumes a sitting position. The leg is maintained in the horizontal position on the leg support for two to three minutes. The patient then stands and actively flexes and extends his foot several times before leaving the platform. Since he grasps the side bars during all of these maneuvers, the patient feels secure at all times. This platform has been used over a period of two years, and it has greatly facilitated the examination and injection treatment of varicose veins.

1150 Park Ave. (28).

From the Varicose Vein Clinic, Department of Obstetrics and Gynecology, the Mount Sinai Hospital.

1. Emerson, E., and Muller, J.: Treatment of Varicose Veins with a Flexible Stripper, Surgery **29**: 71 (Jan.) 1951. Kutz, C., and Hendricks, W.: New Vein Stripper and Technique of Stripping, ibid. **29**: 271 (Feb.) 1951. Webb, A., Jr.: A Simplified Vein Stripper, ibid. **29**: 276 (Feb.) 1951. Zollinger, R., and Gilmore, H.: A New Intraluminal Vein Stripper, ibid. **32**: 846 (Nov.) 1952.

2. Nabatoff, R.: A Complete Stripping of Varicose Veins Under Local Anesthesia, New York J. Med. **53**: 1445 (June 15) 1953.

3. The apparatus is manufactured by the Hospital Accessories Company, Woodside, N. Y.

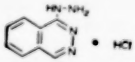
COUNCIL ON PHARMACY AND CHEMISTRY

NEW AND NONOFFICIAL REMEDIES

The following additional article has been accepted as conforming to the rules of the Council on Pharmacy and Chemistry of the American Medical Association for admission to New and Nonofficial Remedies. A copy of the rules on which the Council bases its action will be sent on application.

R. T. STORMONT, M.D., *Secretary.*

Hydralazine Hydrochloride.—Apresoline Hydrochloride (Ciba). —$C_8H_8N_4 \cdot HCl$.—M.W. 196.64.—1-Hydrazinophthalazine hydrochloride.—The structural formula of hydralazine hydrochloride may be represented as follows:



Actions and Uses.—Hydralazine hydrochloride, a derivative of phthalazine, is an antipressor drug that exerts chiefly a central action on the midbrain. It possesses a moderate degree of adrenergic (adrenolytic and sympatholytic) blocking action against the pressor effects of epinephrine and levarterenol. The drug increases blood flow through the kidney, diminishes cerebral vascular tone, and reduces both diastolic and systolic blood pressure. Hydralazine may inhibit the pressor actions of angiotonin (hypertensin), serotonin, pherentasin, and possibly other endogenous factors considered important in causing hypertension. It also inhibits the hormonal-cerebral vasopressor substance that may participate in varying degrees in more than one form of hypertensive disease and that is not affected by more potent adrenergic blocking agents. The capacity to inhibit a pressor substance of cerebral origin may explain the drug's effectiveness in neurogenic hypertension not benefited by extensive lumbodorsal sympathectomy.

Hydralazine helps control essential and early malignant hypertension. Its efficacy is often greater in acute, severer, nonterminal phases of these disorders. With advanced pathological changes of the kidney (chronic renal hypertension or chronic glomerulonephritis), the effectiveness of the drug is considerably diminished. Although kidney function improves in some patients, evidence is lacking to indicate that the drug effects any anatomic alteration in patients with severe and progressive cardiovascular disease. More experience is necessary to determine whether the capacity of hydralazine to lower elevated pressure in early severe hypertension will delay development of vascular damage. Worth-while results may be expected in the toxemias of pregnancy. Preliminary studies indicate some beneficial effects in acute glomerulonephritis. Hydralazine is thus a useful adjunct in the control of diverse forms of hypertension, with due consideration to the environmental, dietary, and psychic factors involved.

Although true tolerance to the drug has not been demonstrated, blood pressure may rise occasionally during treatment. When this occurs, it may be advisable to discontinue therapy for a week, then resume it with small doses as for initial treatment.

Because the toxicity of hydralazine is low, serious untoward effects are seldom encountered. Studies on experimental animals have not revealed evidence of chronic toxic effects on the tissues. Clinically, postural hypotension and circulatory collapse may precede a fall in blood pressure, but severe reactions of this kind are relatively rare. The secondary effects of a reduction in blood pressure per se may cause tachycardia, headache, dizziness, faintness, palpitation, angina, numbness and tingling of extremities, malaise, depression, disorientation, and anxiety. In addition to these side-effects, the drug also may produce nausea, vomiting, and mild periorbital, ankle, genital, or other localized edema. Giant urticaria, relieved when the drug is withdrawn, has also been reported. In most patients side-effects usually disappear after the first two weeks of medication but may persist with continued therapy or reappear upon increase of the dosage.

The physician must be thoroughly familiar with the characteristics of hydralazine before prescribing or administering the drug. Only with such understanding can the maximal benefit consistent with minimal untoward effects be fully realized. Use of the drug in conjunction with other potent hypotensive drugs should not be attempted until there is further evidence by which to weigh the possible usefulness of combined therapy against its potential dangers.

Caution is advised in the prolonged administration of large doses as they have been reported to produce, in some patients, an apparently toxic response resembling either early rheumatoid arthritis, or, what is regarded as a severer phase of the same syndrome, acute systemic lupus erythematosus. The milder rheumatic phase usually disappears when the drug is withdrawn or the dosage reduced. The severe erythematous form has been controlled with cortisone and corticotropin.

Dosage.—Hydralazine hydrochloride is usually administered orally but may be injected parenterally (intramuscularly or intravenously) when the drug cannot be given by mouth. By either route, the dosage must be individualized in accordance with the response of the patient.

In the ambulatory patient, therapy should be initiated by the oral route and the patient carefully instructed by the physician concerning the subjective effects that are produced. Headache and/or palpitation usually are experienced within 12 to 24 hours following the initial dose. These symptoms usually disappear spontaneously, with no change in dosage, within 7 to 10 days after starting treatment.

The initial dose for moderate to severe hypertension should be 10 mg., given four times daily, after each meal and at bedtime, to make a total daily dose of 40 mg. Individual doses should be spaced equally and the total of 40 mg. per day continued for the first two to four days, unless contraindicated because of severe or distressing side-effects. The dose may be increased to 25 mg. four times daily for the balance of the first week. During the second week, the dose may be increased to 50 mg. four times daily (total daily dose of 200 mg.). If side-effects are absent or minimal and the blood pressure can be reduced to a more desirable level, the single dose may be augmented by 10 or 25 mg. increments every five to seven days. Most patients obtain maximal benefit from the schedule of 100 mg. four times daily (total daily dose of 400 mg.); however, some patients are best stabilized with as little as 100 mg. per day in divided doses. Others may tolerate as much as 600 mg. per day. If tolerance develops, the drug should be withdrawn for one week and then administration resumed at the lowest effective level.

In hospitalized patients with severe types of hypertensive disease, therapy is also initiated by the oral route at a dose of 25 mg. every 6 hours for the first 24 hours. Thereafter, individual doses are increased by 25 mg. daily until the desired effect is obtained. Intervals between individual doses should be equal and no less than four hours apart. The same management of side-effects and tolerance for the ambulatory patient applies to the hospitalized patient.

Parenteral injection may be used to initiate therapy in hospitalized patients with severe hypertension who are unable to take the drug orally. The usual parenteral dose is 20 to 40 mg. intravenously or intramuscularly, every four to six hours, depending upon the patient's response. In patients with extensive renal damage, a smaller initial dose may be indicated. The blood pressure, which should be checked frequently to reveal any precipitous drop, will act as a guide to individual dosage. Pressure may begin to decline within 2 or 3 minutes after injection; the average maximal fall occurs within 10 to 80 minutes. When the measured fall is not as large as desired, subsequent individual doses may be increased gradually, provided absorption of the initial dose has not been delayed. It is usually possible to shift to oral therapy within 24 to 48 hours. In cases of preeclampsia or eclampsia, the blood pressure may fall dramatically to normal levels within 5 to 10 minutes, after the intravenous injection of 20 to 40

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mg. It is advisable to inject 20 mg. as the initial dose and to follow with another injection if further reduction of blood pressure is desired. The effect may persist 6 to 24 hours. Additional injections may be given and, as soon as feasible, the patient shifted to oral therapy with the schedule ordinarily followed for hospitalized patients. In hypertensive episodes associated with acute glomerulonephritis, intramuscular injections of 0.25 mg. per kilogram of body weight are usually effective in reducing blood pressure. Injections may be repeated as necessary every four to six hours.

Tests and Standards.—

Physical Properties: Hydralazine hydrochloride is a white, odorless, crystalline powder, m.p. 270-280° (with decomposition). It is very slightly soluble in ether. The amounts which dissolve in the following solvents to form 100 ml. of solution are 0.2 gm. in alcohol and 4.4 gm. in water. The pH of a 2% solution is 3.5-4.5.

Identity Tests: Dissolve about 50 mg. of hydralazine hydrochloride in about 15 ml. of water in a test tube, add an excess of picric acid T.S., filter the mixture, wash the precipitate, and dry it at 105°; the picrate melts with decomposition at 195-205°.

Dissolve about 25 mg. of hydralazine hydrochloride in 10 ml. of water, and add 2 drops of nitric acid and 1 ml. of silver nitrate T.S.: a white precipitate forms, which is insoluble in diluted nitric acid but soluble in diluted ammonia solution *(presence of chloride)*.

Prepare a 0.001% solution of hydralazine hydrochloride as follows. Transfer to a 100 ml. volumetric flask 0.1 gm. of hydralazine hydrochloride, accurately weighed, fill to the mark with water, and mix. Transfer to a second 100 ml. volumetric flask 10 ml. of the solution, dilute to the mark, and mix. Transfer to a third 100 ml. volumetric flask 10 ml. of this last solution, dilute to the mark, and mix. The solution shows ultraviolet absorption maxima at about 211, 240, 260, 304, and 315 mμ and minima at 228, 250, 298, and 312 mμ with a slight inflection at about 290 mμ.

Purity Tests: Transfer 2 gm. of hydralazine hydrochloride to a 250 ml. Erlenmeyer flask, add 100 ml. of water, and shake intermittently for about 30 min. Filter the solution through a tared sintered glass crucible and wash any precipitate in the flask into the crucible. Wash the residue with three 10 ml. portions of water, dry at 105° for about 3 hours, cool, and weigh: the insoluble material does not exceed 0.2%.

Dry about 1 gm. of hydralazine hydrochloride in a vacuum desiccator over phosphorus pentoxide for about 8 hours: the loss in weight does not exceed 0.5%.

Char about 1 gm. of hydralazine hydrochloride, accurately weighed, cool the residue, add 1 ml. of sulfuric acid, heat cautiously until evolution of sulfur trioxide ceases, ignite, cool, and weigh: the residue does not exceed 0.1%.

Assay: (Hydralazine Hydrochloride) Transfer to a 250 ml. iodine flask about 50 mg. of hydralazine hydrochloride, accurately weighed, and dissolve it in 25 ml. of water. Add 1 gm. of sodium bicarbonate and 25 ml. of 0.1 *N* iodine. Allow the reaction mixture to stand for 15 min., add 5 ml. of hydrochloric acid, and titrate the excess iodine with 0.1 *N* sodium thiosulfate using starch as an indicator. Each milliliter of 0.1 *N* iodine consumed is equivalent to 0.004916 gm. of hydralazine hydrochloride. The amount of hydralazine hydrochloride is not less than 98.0 nor more than 102.0%.

Dosage Forms of Hydralazine Hydrochloride

SOLUTION. *Identity Tests:* The solution responds to the picrate identity test for the active ingredient in the monograph for hydralazine hydrochloride.

Assay: (Hydralazine Hydrochloride) Transfer to a 250 ml. iodine flask an amount of solution, accurately measured, equivalent to about 50 mg. of hydralazine hydrochloride. Add enough water to bring the volume to 25 ml. Add about 1 gm. of sodium bicarbonate and 25 ml. of 0.1 *N* iodine. Proceed as directed in the assay for hydralazine hydrochloride in the monograph for hydralazine hydrochloride starting with "Allow the reaction mixture to stand . . . ." Each milliliter of 0.1 *N* iodine consumed is equivalent to 0.004916 gm. of hydralazine hydrochloride. The amount of hydralazine hydrochloride is not less than 95.0 nor more than 105.0% of the labeled amount.

TABLETS. *Identity Tests:* Grind a number of tablets equivalent to about 50 mg. of hydralazine hydrochloride and transfer the powder to a test tube containing about 15 ml. of water. Remove the suspended material by centrifuging and add an excess of picric acid T.S. to the supernatant solution. Filter the precipitate, wash, and dry at 105° for 1 hour: the picrate melts with decomposition at 195-205°.

Assay: (Hydralazine Hydrochloride) Transfer to a 100 ml. volumetric flask an amount of powder, accurately weighed, equivalent to about 0.2 gm. of hydralazine hydrochloride. Add about 50 ml. of water and shake mechanically for about 15 min. Fill to the mark with water and mix. Transfer to a 250 ml. iodine flask 25 ml. of the solution. Add 1 gm. of sodium bicarbonate and 25 ml. of 0.1 *N* iodine. Proceed as directed in the assay for hydralazine hydrochloride in the monograph for hydralazine hydrochloride starting with, "Allow the reaction mixture to stand . . ." Each milliliter of 0.1 *N* iodine consumed is equivalent to 0.004916 gm. of hydralazine hydrochloride. The amount of hydralazine hydrochloride is not less than 93.0 nor more than 107.0% of the labeled amount.

Ciba Pharmaceutical Products, Inc., Summit, N. J.

Solution Apresoline Hydrochloride: 1 cc. ampuls. A solution containing 20 mg. of hydralazine hydrochloride in each cubic centimeter. Preserved with 0.5% chlorobutanol.

Tablets Apresoline Hydrochloride: 10, 25, 50 and 100 mg. U. S. patent 2,484,029.

COUNCIL ON FOODS AND NUTRITION

ACCEPTED FOODS

The following products containing non-nutritive artificial sweeteners intended for use in low carbohydrate, low sodium, and other therapeutic diets have been accepted as conforming to the rules of the Council. Data regarding composition represent the best available information, which is based on submitted reports of analyses. The Council has requested continuing analytical studies, especially of the sodium content of products intended for use in low sodium diets, because of the natural variations in the composition of processed foods.

JAMES R. WILSON, M.D., *Secretary.*

Monarch Finer Foods Division, Consolidated Grocers Corporation, Chicago.

Monarch Brand Diet Dessert Dietetic Pack Apple Sauce.

Ingredients: Applesauce packed in water with the addition of cyclamate calcium (Sucaryl Calcium).

Analysis (submitted by manufacturer).—Available carbohydrates (total carbohydrate minus crude fiber) 11%, fat (ether extract) 0.3%, protein (N × 6.25) 0.2%, ash (minerals) 0.2%, sodium 13.8 mg./100 gm., and cyclamate calcium 0.2%.

Calories.—0.50 per gram; 14.2 per ounce.

Use.—In low sodium, low calory, and other therapeutic diets.

Monarch Brand Diet Dessert Dietetic Pack Apricot Halves.

Ingredients: Apricots packed in water with the addition of cyclamate calcium (Sucaryl Calcium).

Analysis (submitted by manufacturer).—Available carbohydrates (total carbohydrate minus crude fiber) 9%, fat (ether extract) 0.2%, protein (N × 6.25) 0.3%, ash (mineral) 0.5%, sodium 1.1 mg./100 gm., and cyclamate calcium 0.3%.

Calories.—0.40 per gram; 11.3 per ounce.

Use.—In low sodium, low calory, and other therapeutic diets.

Monarch Brand Diet Dessert Dietetic Pack Blackberries.

Ingredients: Blackberries packed in water with the addition of cyclamate calcium (Sucaryl Calcium).

Analysis (submitted by manufacturer).—Available carbohydrates (total carbohydrate minus crude fiber) 11%, fat (ether extract) 0.8%, protein (N × 6.25) 1%, ash (minerals) 0.4%, sodium 0.37 mg./100 gm., and cyclamate calcium 0.35%.

Calories.—0.53 per gram; 15 per ounce.

Use.—In low sodium, low calory, and other therapeutic diets.

Monarch Brand Diet Dessert Dietetic Pack Boysenberries.

Ingredients: Boysenberries packed in water with the addition of cyclamate calcium (Sucaryl Calcium).

Analysis (submitted by manufacturer).—Available carbohydrates (total carbohydrate minus crude fiber) 8%, fat (ether extract) 0.8%, protein (N × 6.25) 0.6%, ash (minerals) 0.3%, sodium 0.3 mg./100 gm., and cyclamate calcium 0.35%.

Calories.—0.45 per gram; 12.8 per ounce.

Use.—In low sodium, low calory, and other therapeutic diets.

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IATROGENIC DISEASE

From 1900 to 1925 all subjective symptoms had to be explained by the presence of organic defects. Two world wars have demonstrated that many symptoms arise from fear, anxiety, and feelings of guilt, hostility, or inferiority, especially if present over a long period.[1] Such diseases as duodenal ulcer, hypertension, rheumatoid arthritis, some allergic conditions, and dysmenorrhea are now known to be related to emotional disturbances. It is a serious error to always assume that a patient's complaint is necessarily an indication of a physical disorder. Such an attitude in the past led too often to a rigid, static, and mechanical treatment of the patient's supposed disease rather than to a flexible and skillful management of the whole patient.

Failure to recognize emotional factors and single-minded pursuit of an organic cause for a patient's symptoms may convince the patient that he has a serious organic disease. This may tend to fix his symptoms and make him a permanent invalid. When the patient has no definite pathological findings, some minor abnormality should not be pounced on as a probable cause for the symptoms. Treatment directed at such a finding will not benefit permanently and may even harm the patient. Recognition that an emotional disturbance is causing a patient's symptoms should not provide an excuse to hide inability to strike at the cause by using a barrage of scientific terms beyond the patient's ability to comprehend. This depresses rather than impresses the patient, who is then likely to seek the advice of another physician.[2] This time the patient is more wary in his approach and tries to stress the organic nature of his illness. Thus he has been pushed one step nearer to an iatrogenic illness.

There are many ways in which the doctor-patient relationship may foster iatrogenicity. If the physician betrays anxiety in his face, voice, or manner the patient, who is already anxious, is quick to sense it and to exaggerate its significance. Some patients are more predisposed to iatrogenic disorders than others. The hypochondriac succumbs most readily. The inadequate, immature person may use physical complaints to evade an unpleasant responsibility. Poor mental development also favors misinterpretation of the physician's words. If such a patient is treated as though he has an organic disease his neurosis becomes fixed.[3] Because iatrogenic neuroses are likely to follow the unwise use of too extensive diagnostic studies, especially if they include roentgenologic, electrocardiographic, or other elaborate examinations, great care should be exercised in the way the necessity for these procedures is explained to the patient. What the doctor tells his patient also has a great influence on the patient's reaction. Much harm may be done by giving a patient alarming information or by giving a minor condition an alarming name. For example, in World War I combat fatigue was called "shell shock," and patients clung to this diagnosis for the rest of their lives.[4] In World War II, by calling it exhaustion, it was recognized by the patients as a transient condition and they recovered.

The type of treatment given is another factor in producing iatrogenic disease. If a thyroid is removed because of a rapid pulse and hypothyroidism results or if barbiturates given for alcoholism result in barbiturate addiction, iatrogenic diseases have certainly been produced. In addition to overanxiety on the part of the doctor, oversympathy may also aggravate relatively unimportant symptoms, as it gives the patient the impression that his physician is holding back information as to the true seriousness of the condition. On the other hand, if the patient senses an undercurrent of hostility in the doctor, he may think the doctor is irritated because he does not know the nature of the disease or how to cure it. The patient then concludes, in view of the doctor's apparent inability to deal with the disease, that it must indeed be a serious condition. One familiar form of hostility is implied when the physician tells the patient there is nothing wrong with him and leaves the impression that it is a bother to see such complainers. This does not help the patient and may lead to chronicity of his complaints as well as to open irritation of the doctor.

Several means of preventing iatrogenicity suggest themselves. Instead of telling a patient that nothing was found to account for his illness, he should be told what the underlying emotional factors are and how they are producing real but not incurable symptoms. This must be done in language that the patient can readily understand and in a way that will be helpful to him. Above all, there must be conviction and the courage to stand by them. Rash statements either in the patient's presence or in his hearing are inadvisable, as is a roughly technical discussion of the patient's illness with a consultant, intern, or nurse at the patient's bedside.

1. Mitchell, J. H.: Iatrogenic Disease, North Carolina M. J. 13: 231-233 (June) 1952.

2. Blumgart, P. G.: Iatrogenicity in Medicine, J. Michigan M. Soc. 49: 1000-1002 (Dec.) 1950.

3. Segal, H. L.: Iatrogenic Disease in Soldiers, U. S. Armed Forces M. J. 4: 46-50 (Jan.) 1953.

4. Strauss, P. S.: Iatrogenic Factors in Illness, ann. J. M. Sc. 215: 103-107 (Jan.) 1948.

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It is important to determine, if possible, in which patients iatrogenic disease is likely to develop. Sometimes this is not difficult; sometimes of course it is impossible. However, two aspects of the problem are self-evident—the need for a friendly understanding manner and the value of inspiring patients with hope, which is a very important part of treatment.

TODAY'S HEALTH

In order to achieve its greatest usefulness, any magazine must reach the persons for whom it is written. *Today's Health* discusses the personal and community health needs of the lay public and how to meet them. It emphasizes the family's need for a family doctor and the community's need to suppress medical fraud and quackery. A plan whereby this magazine can be made available to a larger audience has been developing in the past two years. The essence of the plan is a substantially lowered annual subscription rate to business and industrial firms, schools, hospitals, or any group ordering 10 or more copies to be sent to one address and the same low rate when 25 or more copies are ordered through one agency to be sent to the individual home or office address of employees.

The Timken Roller Bearing Company has the largest order under this plan; 1,056 copies per month are mailed to the home address of their field and office staff. Many other nationally known firms, including telephone companies, insurance companies, manufacturers of first aid supplies, pharmaceutical houses, and large oil companies are among the beneficiaries of this plan. Six state universities have used the plan for their faculty members. The Mayo Clinic placed an order for 290 four-year subscriptions to *Today's Health* through the local woman's auxiliary. The magazines will be placed in wards and clinic waiting rooms throughout the clinic and its associated hospitals. This is a project that other clinics and hospitals might find well worth while.

CURRENT MEDICAL LITERATURE ABSTRACTS

For many years THE JOURNAL has published among the abstracts of Current Medical Literature the table of contents of various periodicals from which at the time no abstract was made. While these tables of contents were published in small type and while no doubt they were of interest to some readers, they required a considerable amount of space, which it is believed can be used to the advantage of even more readers. Furthermore, the cost of producing a medical journal has become so great that only those activities seemingly in demand by the readers are indicated. Surveys and correspondence reveal far more interest in the abstracts than in the titles. In fact, there has been a growing demand for abstracts and for their arrangement under headings that indicate the broad fields in which the abstracts may be placed. In view of this ever-increasing interest in the abstracts themselves, THE JOURNAL, beginning with this issue, will omit those items that comprise only the table of contents and will arrange the abstracts under the various specialties.

RULES FOR SAFETY DURING THUNDERSTORM

Last summer a man was killed by lightning while leaning against a tree along a creek where there were many other trees. The question has been asked whether leaning against a tree increases its attraction for lightning. While human beings are better conductors of electricity than dry wood, if the exterior of a tree trunk is wet, it may be a better conductor. At the beginning of a thunderstorm the trunk may not be wet because the leaves will protect it from the rain for a while.

One of the safest places during a lightning storm is in some metal enclosure, such as an automobile with a metal top, a steel railway coach, or a steel building. A dangerous place during a lightning storm is in the middle of a field away from all trees or in a wooden boat in a large expanse of water. In a residential area, if the house is higher than the surrounding trees, the lightning may discharge through the building. If trees in the same vicinity are higher, lightning may discharge through them instead of the house. Pointed lightning rods will discharge the atmosphere and conduct the lightning to the ground. A farmer plowing a field would be safer under the tractor than perched in its seat.

The following rules for personal safety during a thunderstorm are given in the "Code for Protection Against Lightning," compiled by the National Bureau of Standards.

(*a*) Do not go out of doors or remain out during thunderstorms unless it is necessary. Stay inside of a building where it is dry, preferably away from chimneys, fireplaces, stoves, and other metal objects.

(*b*) If there is any place of shelter, choose in the following order:

1. Large metal or metal-frame building.
2. Dwelling or other buildings which are protected against lightning.
3. Large unprotected building.
4. Small unprotected building.

(*c*) If remaining out of doors is unavoidable, keep away from:

1. Small sheds and shelters if in an exposed location.
2. Isolated trees.
3. Wire fences.
4. Hill tops and wide open spaces.

(*d*) Seek shelter in a cave, a depression in the ground, a deep valley or canyon, the foot of a steep or overhanging cliff, in a dense woods, or in a grove of trees.

It is probably unwise to lean against an isolated tree trunk during a thunderstorm. If nothing better is available, it is probably safer to sit under the tree, but one should stay several feet away from the trunk and not touch it.

ORGANIZATION SECTION

NEW HAMPSHIRE MEDICAL SOCIETY

The New Hampshire legislature, on Feb. 16, 1791, granted the New Hampshire Medical Society a charter with the stipulation that "it shall be the duty of the said Medical Society, from time to time, to describe and point out such a medical instruction or education as they shall judge requisite for candidates for the practice of Physic and Surgery, previous to their examination before them, or their officers appointed for that purpose, respecting their skill in their profession, and shall cause the same to be published in two of the Newspapers printed in different Counties in this State. . . ."

The first president of the society was its founder, Dr. Josiah Bartlett, a member of the Continental Congress, signer of the Declaration of Independence, chief justice of the superior court, president of New Hampshire, and later elected its first governor. His many accomplishments are set forth in "The Story of the New Hampshire Medical Society" told by Dr. Lyman Bartlett How at the centennial of the society in 1891, revised and continued by Dr. Henry O. Smith (father of Dr. Deering G. Smith, Nashua, who in 1950 was elected secretary-treasurer of the society for five years), and printed for the 150th anniversary of the society in 1941.

At its first meeting, May 4, 1791, the society took up the matter of "a device of a Seal for the Society," and three years later it was resolved that "the Corresponding Secretary shall get the Seal for this Society engraved on silver of three ounces weight, if it can be done in Boston for six pounds LM, but if it cannot be engraved in Boston for that price, to procure it in Europe of that weight."

Always interested in improving the health of the people, the society examined and licensed for practice in the state all physicians until the State Board of Medical Examiners was established in 1897. The society instigated this legislation as it did other health measures, including the creation of a state board of health, the building of a tuberculosis sanatorium, and measures for procuring registration of births, marriages, and deaths. In 1847 it petitioned for the enactment of a law "adapted to prevent the introduction and sale of suprious [sic] and sophisticated drugs and chemicals in the United States"—a step that preceded passage of the import drug act by Congress in 1848. The society is at present endeavoring to reduce the cost to the welfare department of medical care and is sponsoring a survey of the nursing situation in the state.

In 1904 the society voted to donate $1,000 from its funds toward the cost of erecting a new building for Dartmouth Medical College, the money to be taken from the fund established in 1846 by Dr. Josiah Bartlett (a sum of $201.50, which had increased greatly through the accumulation of dividends). In 1940, $2,000 was given "for the benefit of the Dartmouth Medical School in helping provide much needed accommodations for the departments of Physiology and Pathology." In 1890 a bequest by Dr. T. J. W. Pray of Dover led to the establishment of an essay contest, and in 1921 the will of Dr. H. B. Burnham gave the society his medical library and $1,200 "in trust, the income therefrom only to be expended as a prize for the best dissertation on some medical or surgical topic to be competed for only by members of the said society." In 1932 a benevolence fund was created "to render pecuniary aid to needy members who are sick, disabled, or aged, or to needy widows and children of deceased members" and is maintained by a small annual apportionment from membership dues and by contributions.

The society publishes a news bulletin for its members and since 1927 has used as its official organ the *New England Journal of Medicine*. For the past four years the annual meeting has been held jointly with the Vermont State Medical Society, at times at Manchester, Vt., and at other times at the Mount Washington Hotel, Bretton Woods, N. H., where the next annual meeting will convene Oct. 3-5. Headquarters of the society are at 18 School St., Concord. Its officers are Dr. Albert E. Barcomb, Rochester, president, and Dr. Warren H. Butterfield, Concord, secretary and treasurer pro tem. The original petition for the charter in 1791 had been signed by 19 physicians from 13 towns. The present membership of 661 includes nearly all the active practitioners of the state, which has a county medical society in each county.

OCCUPATIONAL HEALTH AND THE WORLD MEDICAL ASSOCIATION

The World Medical Association, representing 700,000 physicians in 46 national medical associations, announced recently that plans are under way to establish an international committee on occupational health services for the benefit of industrial workers everywhere. Dr. Louis H. Bauer, New York, secretary general of the World Medical Association, said the international committee will be made up of physicians who are members of the W. M. A. There is a strong possibility, Dr. Bauer said, that the World Medical Association, in cooperation with other organizations, will sponsor an international conference on occupational health within the next three or four years. The site for such an international congress has not been decided.

At an initial meeting in New York recently, more than 35 industrial health leaders in the United States explored the feasibility of embarking on such an international occupational health program and urged the World Medical Association to take charge of it. "We are presently collecting all the important data we can in connection with such a project," Dr. Bauer said, "and then plan to place the information in the hands of members of the Council of the World Medical Association when it meets in Zurich, Switzerland, in April, for final action."

To give the council as much help as possible in formulating such a program on an international scale, an American-Canadian advisory committee was appointed during the 14th annual Congress on Industrial Health held in Louisville, Ky., in February. This committee will work closely with the secretariat of the World Medical Association between now and the time the council meets in Zurich. The advisory committee members are Drs. Carl Peterson, Chicago, Chairman; Henry H. Kessler, Newark, N. J.; George Saunders, New York; Max R. Burnell, Detroit; C. Richard Walmer, Pittsburgh; John Poutas, New York; Robert A. Kehoe, Cincinnati; Grant Cunningham, Toronto, Canada; Leonard Greenburg, New York; Seward Miller, U. S. Public Health Service; and George Wilkins, Boston.

"Since the World Medical Association reprtsents nongovernmental agencies, its efforts to improve the occupational health of workers and their families will stimulate the interest and increase the participation of the practicing physicians over the world," Dr. Bauer said. "The whole movement will be undertaken on an international, grass-roots level."

Industrial health leaders, representing medicine, industry, and government, pledged support of the new movement at the New York meeting because it was felt that every country with any degree of industrialization has industrial health problems. The advisory committee agreed that the basic elements in occupational health service can be classified under the major headings of organizational and administrative occupational medicine, preventive medicine and public health, industrial hygiene, health education, occupational medical education and research, medical care, and workmen's compensation and rehabilitation. A primary objective of the World Medical Association should be to formulate standards and principles that will define the relations of the practicing physician to these components.

The advisory committee also recommended that the occupational health committee of the World Medical Association establish contact with other international organizations in this field to define specific objectives, spheres of action, and working relations. Each national medical society holding membership in the World Medical Association should be invited to establish

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a corresponding committee if one does not already exist. These national committees would inform the Occupational Health Services Committee of the W. M. A. about the present status, scope, and effectiveness of current programs, conspicuous gaps in activities, and governmental legislation and regulations as they apply to countries of origin. In this way a clearing house of information would ultimately develop on many international phases of occupational health services. "Through such a program," Dr. Bauer said, "the medical practitioner everywhere—individually and through his professional organizations—can understand more clearly the health problems of the worker and his employer."

THE STATE JOURNAL ADVERTISING BUREAU

This is one of a series of brief statements explaining the work of various departments of the American Medical Association. —ED.

The State Journal Advertising Bureau (formerly known as the Cooperative Medical Advertising Bureau) was organized in 1913 by the Board of Trustees to promote a high standard of advertising for its members and to aid the state medical journals with their advertising problems. It facilitates contact between state medical publications, advertisers, and advertising agencies, aiding in the sale of space, acquisition and distribution of copy, checking copy with various councils and committees of the American Medical Association, and providing checking, billing, correspondence, and similar services. Because the Bureau places advertisements at an average of 7% of the net billing, including listing, mailings, and advertising program, as compared to a commercial cost of 15, 20, 25% or more, it helps each member journal save on advertising expenses. This puts Bureau members in a better financial position to publish good medical journals. Because a central arrangement is made between advertiser and the Bureau, only one pattern plate is needed. All member publications use the same size page.

When a contract is secured, the Bureau writes the state journals enclosing a copy of the contract and explaining rates and specifications. Each journal then bills the Bureau for the advertisement and receives a monthly check from the Bureau. About $60,000 is sent each month to state journals, with a yearly gross exceeding $700,000. Consultation service is available to member journals on printing, typography, and layout. A monthly bulletin is issued for state journals containing suggestions for placement of advertisements and make-up, information about the Bureau, and a list of products accepted by A. M. A. Councils within the current month. A biennial seminar is held at A. M. A. headquarters for editors and business managers for presentation of new techniques in advertising format, discussion of common problems, and other pertinent matters. Speakers are nationally known experts in editorial and advertising fields. Copies of the proceedings of the conferences are distributed to the 100 or more who attend the meetings and to the various editorial associations and medical libraries who make requests for them.

At present the membership is comprised of 33 journals representing 37 state medical societies, including Hawaii. Of the states not represented in the group, 3 do not have an official journal, 1 is not owned by the state society, and the remaining 6 journals, which are society owned, are eligible for membership. The advertising standards maintained by the Bureau are the same as those adopted for A. M. A. publications, requiring acceptance of all products that come under the purview of the councils or committees of the American Medical Association. The principles and policies under which the Bureau functions are developed by a consulting board of five members, elected for terms of five years, who are editors or business managers of state medical journals and members of the A. M. A. The General Manager, the chairman of the A. M. A. Advertising Committee, and the Secretary of the Council on Pharmacy and Chemistry of the A. M. A. are ex officio members.

The present annual net revenue (about $725,000 per year) is remitted to the state societies, with only a nominal deduction for operating cost of the Bureau. Over 10,853 pages of advertising are released each year. Many firms use the entire group for national coverage while others select sectional coverage in the states where they have established distribution.

TODAY'S HEALTH

Today's Health magazine, published by the A. M. A., will be distributed in the waiting rooms and the larger hospital rooms at the Mayo Clinic, Rochester, Minn. The 290 four-year subscriptions were made available through the cooperation of the clinic and the Olmsted-Houston-Fillmore-Dodge County Medical Auxiliary.

STATE MEDICAL LEGISLATION

Arizona

Bill Introduced.—S. 28, proposes to amend the law relating to the operation of motor vehicles by providing that any person who operates a motor vehicle shall be deemed to have given his consent to a **chemical test of his breath, blood, urine, or saliva** for the purpose of determining the alcoholic content of his blood provided that such test is administered at the direction of a peace officer having reasonable grounds to suspect such person of driving in an intoxicated condition. Refusal to submit to the test shall result in notice of such refusal being sent to the highway department which has authority to revoke his driver's license.

Bill Enacted.—S. 104, was approved March 25, 1954. It provides regulations for the **creation of hospital districts.**

California

Bills Introduced.—A. 85-X, to amend the law relating to penalties for **violation of the narcotic laws,** proposes to authorize life imprisonment for such violations. S. 40-X, to amend the law relating to **violations of the narcotic act,** proposes that first offenders may be imprisoned for up to 5 years and second and subsequent offenders for up to 10 years. Persons convicted of second or subsequent offenses shall not be granted probation nor shall the execution of sentence be suspended by the court, and they shall not be eligible for parole until they have served at least two-thirds of the minimum sentence.

New Jersey

Bills Introduced.—A. 131, proposes that any person who operates a motor vehicle in the state shall be deemed to have given his **consent to a chemical analysis of his blood, breath, or saliva for the purpose of determining the alcoholic content of his blood.** If a person has been placed under arrest and has been requested to submit to such chemical analysis but refuses to do so, the analysis shall not be made but the director of the division of motor vehicles shall revoke his license or permit to drive temporarily subject to an opportunity to be heard at a later date. A. 186, proposes a number of general amendments to the workmen's compensation act among which is a proviso that the employer shall promptly provide for an injured employee such medical, surgical, or other attendants or treatments, nurse and hospital service, medicine, crutches, and apparatus for such period as the nature of the injury or the process of recovery may require. **An injured employee may,** when such care is required, **select to treat him any duly licensed physician.** A. 305, proposes the creation of a **state board of psychological examiners** for the purpose of examining and licensing persons desiring to practice psychology. The term "psychological services" is defined to refer to any services if the words "psychological," "psychologist," or "psychology" are used to describe such services by the person or organization rendering or offering to render them. S. 146, proposes to authorize a licensed physician to conduct a **postmortem examination** upon the body of a deceased person after obtaining consent in writing of one of the following persons who shall have assumed responsibility for the burial of the deceased: surviving spouse, adult child, parent, or other next of kin. When two or more of the above mentioned have assumed responsibility and custody of the body, the consent of one of such persons shall be sufficient.

New York

Bills Enacted.—A. 1917, has become Ch. 197 of the Laws of 1954. It amends the mental hygiene law relating to the **appointment and qualification of a commissioner of mental hygiene** by providing that such commissioner shall be a reputable physician duly licensed to practice medicine in the state and who shall have had at least 10 years' experience in the practice of his profession confined wholly or substantially to the care and treatment of persons suffering from nervous and mental disorders of which at least 5 years shall have been as administrative head of the public institution for the care and treatment of persons afflicted with nervous and mental disorders or in a position of similar and equivalent administrative responsibility. S. 695, was approved March 23, 1954. It amends the social welfare law relating to the **definition of a dispensary** by exempting from such definition hospitals operated by the department of hospitals of the city of New York. S. 1356, has become Ch. 207 of the Laws of 1954. It amends the law relating to **prorating medical expense indemnity allowances** by providing that nothing shall prohibit a medical expense indemnity appropriation from prorating a medical expense indemnity allowance among two or more physicians in proportion to the services rendered by each such physician at the request of the subscriber, provided that prior to payment thereof such physician shall submit both to the medical expense indemnity corporation and to the subscriber statements itemizing services rendered by each such physician and the charges therefor. S. 2769, has become Ch. 145 of the Laws of 1954. It amends the **mental hygiene law** relating to membership on mental health boards by providing that at least two of the appointed members of such boards shall be physicians actively engaged in private practice.

Prepared by the Bureau of Legal Medicine and Legislation.

MEDICAL NEWS

ARKANSAS

State Medical Meeting at Fort Smith.—The annual session of the Arkansas Medical Society will convene in the Hotel Goldman, Fort Smith, April 19-21 under the presidency of Dr. Richard C. Dickinson, Horatio. The morning sessions will open at 9 a. m. with film presentations (Monday, The Principles of Fracture Reduction; Tuesday, Early Detection of Glaucoma; Wednesday, Oral Cancer). Out-of-state speakers include:

Daniel J. Moos, Minneapolis, Intestinal Obstruction.
J. H. Ross, Morelia, Michoacan, Mexico, General Practice in Rural Mexico.
Robert H. Jackson, Houston, Texas, Management of the Acute Seriously Involved Poliomyelitis Patient.
Horace V. Munger, Lincoln, Neb., Hematuria.
Edwin J. DeCosta, Chicago (subject to be announced).
Robert A. Ross, Chapel Hill, N. C., Indications for Pelvic Surgery.
Elmer G. Wakefield, Rochester, Minn., Differential Diagnosis Between Organic and Functional Disease of the Intestine.
James F. Lewis, Columbus, Miss., Anticoagulant Therapy: A Review.
William R. Mathews, Shreveport, La., The Changing Face of Medicine in a Morgue During the Last Quarter of a Century.
Thomas C. Douglass, Chicago, Complications of Cholecystectomy: Prevention and Treatment.
Lawrence B. Hobson, New York, Current Problems in Therapy of Infections.

On Monday at 12:15 p. m. Dr. John D. Olson, Fort Smith, will serve as moderator for a surgical symposium. The all-day meeting of the eye, ear, nose, and throat section will begin at 10 a. m. and will include luncheon at St. Edward's Mercy Hospital. Dr. Ralph H. Riggs, Shreveport, La., will address the section on physiological surgery of the nasal septum and associated structures, and Dr. William J. G. Davis, Washington, D. C., will present "Problems in Muscle Imbalance." On Tuesday at 7 p. m. buffet banquet entertainment will be provided by the Sebastian County Woman's Auxiliary in the main dining room of the Hotel Goldman.

CONNECTICUT

Phi Delta Epsilon Lecture.—The Alpha Rho chapter of the Phi Delta Epsilon fraternity at Yale University School of Medicine, New Haven, will hold its annual lectureship April 22, 8:30 p. m., at the medical school. Dr. Robert P. Knight, Stockbridge, Mass., will discuss "How Should the Nonpsychiatrist Physician Handle the Psychiatric Problems in His Patients?"

Television Health Education Committee.—The Connecticut TV Committee for Health Education, which is being organized "to provide Connecticut television station managements and official and voluntary health agencies with a clearing house for programs of authentic health information on a public service basis," includes, as its first members, representatives of four television stations and seven state-wide health agencies (Connecticut division, American Cancer Society; Connecticut Heart Association; Connecticut State Department of Health; Connecticut Public Health Educators; Connecticut State Tuberculosis Commission; Connecticut State Medical Society; and Connecticut Tuberculosis Association). Chester S. Bowers, M.P.H., director of public health information, Connecticut State Department of Health, has been elected coordinator of the committee, and subcommittees are being formed to produce a series of health programs in cooperation with television stations. The committee will function as both a planning and a production agency. Membership is open to state-wide health agencies active in health education, with a qualified staff member to assume responsibility for producing television programs assigned on a rotation schedule by the full committee. All programs will be produced in accordance with established codes of ethics as observed by physicians, nurses, and other health personnel and the National Association of Radio and Television Broadcasters.

Physicians are invited to send to this department items of news of general interest, for example, those relating to society activities, new hospitals, education and public health. Programs should be received at least three weeks before the date of meeting.

DELAWARE

General Practice Symposium.—This symposium, co-sponsored by the Lederle Laboratories Division of the American Cyanamid Company, will be held in the DeNemours Foundation Auditorium, Wilmington, April 17. Dr. Martin B. Pennington, Wilmington, president-elect, Delaware Academy of General Practice, will serve as moderator for the morning session, during which the following papers will be presented:

Helpful Hints on Neuropsychiatric Problems, Benjamin P. Weiss, Philadelphia.
Clinical and Morphologic Aspects of Acute Renal Failure in Pregnancy, Duncan E. Reid, Boston.
Gynecology in General Practice, Emil Novak, Baltimore.

Moderator for the afternoon session will be Dr. George J. Boines, Wilmington, president, Delaware Academy of General Practice. Presentation of "Master Two-Step Test for the Diagnosis of Coronary Insufficiency," 2:30-3 p. m., by Dr. Harry L. Jaffe, New York, will be followed by "The Cardiac in Industry" by Dr. Irvin Klein, New York. "Rehabilitation of the Patient with Hemiplegia" 3:50-4:20 p. m. by Dr. Donald A. Covalt, clinical director, New York University-Bellevue Medical Center, New York, will precede "The Place of Virology in General Practice" by Dr. Andrew J. Rhodes, Research Institute, Hospital for Sick Children, Toronto, Canada. Questions and panel discussion will be followed by cocktails and hors d'oeuvres and musical entertainment at the Hotel Dupont, 6-7 p. m.

FLORIDA

Conference on Cancer Cytology.—The annual Seminar and Conference on Cancer Cytology will be held in Miami, April 21-24. Among the guest speakers are Drs. Asher Winkelstein, New York, R. Morales and Toledo of Havana, Cuba, and Benjamin G. Oren, Miami, who will participate in a symposium on gastric cancer. Special sessions will be devoted to cancer of the uterus, breast, prostate, lung, and stomach. Sessions during the first three days of the seminar will be held in the Jackson Memorial Hospital. On Saturday the meeting (Cancer Institute, 1155 N. W. 14th St.) will consist of demonstrations of the latest cytodiagnostic methods, techniques, and procedures.

ILLINOIS

Postgraduate Conference.—The Central Illinois Postgraduate Conference at the Elks Club, Springfield, April 22, will bear a program arranged by the Post Graduate Educational Committee of the Illinois State Medical Society, after a complimentary luncheon by the Sangamon County Medical Society at 12 noon. There will be panel presentations on the changing aspect of thyroid disease and its treatment (1 p. m.) and hypertension in acute and chronic heart failure (2:30 p. m.). Question and discussion periods will follow each of these presentations, and at 4 p. m. "Tax and Estate Planning for Professional Men" will be explained by John Alan Appleman, Urbana. Ladies are invited to the fellowship hour, 5:30 p. m., and the dinner. "The Trial of Malpractice Cases" will be discussed by Charles M. Rush, Chicago.

Chicago

Child Dies of Rabies.—A 2½-year-old boy was bitten on the hand by a stray dog Dec. 8, 1953. The family physician cauterized the wound and dismissed him. On Jan. 20 he was hospitalized, with a temperature of 105 F, stiff neck and back, head drop, flaccid right arm paralysis, difficulty in swallowing, and extreme restlessness. The patient died four days after admission. Direct examination at the state laboratory revealed Negri bodies. This is the first human death from rabies in Illinois since 1952.

Medicine and the Humanities.—The Chicago Medical School is presenting a lecture series on Tuesdays, 12:30 p. m. in Amphitheater A, 710 S. Wolcott Ave. On April 6, "Why We Became Doctors (Motivations as Revealed in Literature)" was presented

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by Dr. Noah D. Fabricant, assistant professor, department of laryngology, rhinology, and otology, University of Illinois College of Medicine; and on April 13, "Religio Medici, 1954" by Dr. Samuel J. Zakon, professor of dermatology, Northwestern University Medical School. The following lectures have been scheduled:

April 20, Medical Symbolism in Painting and Sculpture, Leo M. Zimmerman.
April 27, Disease and Art, Ilza Veith, Ph.D.
May 4, Resurrectionists, Leslie B. Arey, Ph.D.
May 11, Medical Caricatures, Israel Davidsohn.
May 18, Milk Sickness, Frederick Stenn.

MASSACHUSETTS

Lectures on Barbiturate Poisoning.—Dr. Eric Nilsson, assistant professor of anesthesiology, University of Lund, Sweden, will lecture on acute barbiturate poisoning April 20 and April 27, 5 p. m., in the Bigelow Amphitheater, White Building, Massachusetts General Hospital, Boston.

Dr. Lombard Honored.—Dr. Herbert L. Lombard, director, division of cancer and other chronic diseases, state department of public health, Boston, was recently presented the 1953 award of the Public Health Cancer Association of America "in recognition of his outstanding career in preventive medicine and his epochmaking contribution in the field of cancer control." According to the department, Dr. Lombard became a pioneer in cancer control with his appointment as director of the Massachusetts cancer control program, the first state control program in the country, which was launched when the Massachusetts Legislature directed the state department of health to build the institution at Pondville and to establish a series of cancer clinics throughout the state. The Massachusetts program of research, hospitalization, diagnostic clinics, education, and tumor diagnosis service for physicians, inaugurated under Dr. Lombard, has served as a model for similar programs in various parts of the country.

MICHIGAN

University Presents Telecourses.—The University of Michigan Television Office, Ann Arbor, has scheduled a program "Your Health and Modern Medicine," which will include a discussion of diseases related to allergies, the heart, sinus, digestive disorders, and arthritis. Guest lecturers who will appear on the series are: Drs. John M. Sheldon, Albert C. Furstenberg, H. Marvin Pollard, Franklin D. Johnston, and William D. Robinson, Ann Arbor. Dr. Harry A. Towsley, Ann Arbor, will serve as telecourse coordinator. The program originates in the studios of WWJ-TV, the *Detroit News*, and is carried also by WJIM-TV, Lansing, and WKZO-TV, Kalamazoo.

MISSOURI

Lecture on Cortisone.—Dr. Rachmiel Levine, chairman, department of medicine, Michael Reese Hospital, Chicago, will give the annual memorial lecture in the auditorium of the Menorah Medical Center, Kansas City, Mo., April 19, 8 p. m. The lecture is sponsored by the medical staff of the center as a memorial to members of the staff who have died during the preceding year. Dr. Levine, who is also director of metabolic and endocrine research at Michael Reese Hospital, and a lecturer at the University of Chicago, will speak on "The Mode of Action of Cortisone on Inflammation." Members of the medical profession in the Kansas City area are invited.

NEBRASKA

Spring Medical Assembly.—The Creighton University School of Medicine, Omaha, will conduct its annual Spring Medical Assembly at the medical school and at Creighton Memorial St. Joseph's Hospital, April 22-24. All physicians are welcome. Guest speakers, who are also alumni, include Drs. John A. Trautman, director of the clinical center, National Institutes of Health, Bethesda, Md.; Gertrude L. Pease, department of clinical pathology, Mayo Clinic, Rochester, Minn.; and Thomas H. Foley, chief, department of obstetrics, Mercy Hospital, Denver. Dr. M. William Barry, associate professor of medicine, is chairman of the faculty committee for this assembly.

NEW JERSEY

Institute in Psychiatry and Neurology.—The annual Institute in Psychiatry and Neurology, sponsored by the Veterans Administration Hospital, Lyons, N. J., the New Jersey Neuropsychiatric Association, and the New Jersey district branch of the American Psychiatric Association will be held April 21 at Veterans Administration Hospital, Lyons. Drs. Daniel Blain, Washington, D. C., Stephen P. Jewett, New York, and Harvey J. Tompkins, Washington, D. C., will serve as moderators for the following program:

Emotional Deprivation in Infancy and Its Implications in Child Psychiatry, Lauretta Bender, New York.
The Administrator's Place in Psychiatry, Arthur P. Noyes, Norristown, Pa.
Sexual Psychopathology and Crime, Benjamin Karpman, Washington, D. C.
Origin of Human Movement, Temple S. Fay, Philadelphia.

Dinner will be at 7 p. m. "Failures in Psychotherapy" will be discussed by Dr. Leo H. Bartemeier, Detroit. Registration fee, $1 (from which military personnel and full-time Veterans Administration personnel are exempt), will include copy of proceedings of the institute. Information may be obtained from Dr. Crawford N. Baganz, manager of the hospital.

NEW YORK

Schoenbach Memorial Lecture.—The 2nd annual Schoenbach memorial lecture, "Apical Localization of Late Tuberculosis," will be delivered at the Maimonides Hospital of Brooklyn, April 22, 8:30 p. m. by Dr. William Dock, professor of medicine, State University of New York College of Medicine at New York City, Brooklyn.

Dr. Crile to Talk in Geneva.—Dr. George Crile Jr., Cleveland, will discuss "Diseases of the Thyroid Gland" before the Geneva Academy of Medicine, April 19, 8:30 p. m., at the Belhurst in Geneva. This instruction is provided by the Medical Society of the State of New York, with the cooperation of the New York State Department of Health.

Meeting of Rheumatism Association.—The New York Rheumatism Association will hold its annual meeting at Cornell University Medical College, New York City, April 20. Speakers by invitation include Dr. Ernest Fletcher, London, England, whose presentation "Research in Rheumatic Diseases at the Royal Free Hospital" will end the afternoon session, and L. Laszlo Schwartz, D.D.S., Presbyterian Hospital, who will present "The Clinical Physiology and Pathology of the Tempero-Mandibular Joint" during the evening session.

Address on Asthma and Emphysema.—Under the co-sponsorship of Kappa chapter of Phi Lambda Kappa medical fraternity at the University of Buffalo School of Medicine, Dr. Alvan L. Barach, clinical professor of medicine, Columbia University College of Physicians and Surgeons, New York, will discuss "Recent Advances in the Treatment of Bronchial Asthma and Pulmonary Emphysema" at the Buffalo Academy of Medicine, April 21. The talk will be given in the university's new medical building, Samuel P. Capen Hall.

Joint Clinical Session on Tuberculosis.—The Tuberculosis Sanatorium Conference of Metropolitan New York and the New York Trudeau Society will hold a joint clinical session April 21, 8:15 p. m. in the Cornell University Medical College Amphitheatre, 1300 York Ave. (at 69th St.) New York, to discuss "Isoniazid Therapy in Pulmonary Tuberculosis: Clinical and Bacteriological Results." Dr. James J. W. Raleigh, chief, tuberculosis service, Veterans Administration Hospital, Sunmount, will be moderator for the following presentations, which will be followed by general discussion:

Isoniazid Used Singly, Carl Muschenheim, New York.
In Combination with Streptomycin or Para-Aminosalicylic Acid, Henry G. Schaffeld, New York.
Concurrent Use of All Three Drugs, Elfred L. Leech, Oneonta.

New York City

Dr. Rigler Talks on Lung Cancer.—The Ross Golden lecture of Columbia University and the New York Roentgen Society in affiliation with the New York Academy of Medicine will have as speaker, April 19, 8:30 p. m., Dr. Leo G. Rigler, chairman,

department of radiology, University of Minnesota Medical School, Minneapolis, who has been invited to present "Roentgen Observations of the Natural History of Carcinoma of the Lung." Dr. George W. Holmes, Belfast, Maine, will serve as honorary chairman.

Tumor Clinic.—Dr. Ludwik Gross, chief, cancer research, Veterans Administration Hospital, will present "The Virus Theory of Cancer and Allied Diseases: A Working Hypothesis" at the Tumor Clinic Conference, Harlem Hospital, April 21, 10:45 a. m.

Meeting of Oto-Ophthalmologists.—The annual spring meeting of the alumni and staff of the New York Eye and Ear Infirmary will be held April 19-20 at the Academy of Medicine (5th Avenue and 103rd St., Room 440). The guest of honor, Mr. John Foster, Leeds, England, will present "Evaluation of Current Treatment of Stricture of the Valve of Krause, a Film of Lacryocystorhinostomy" Tuesday, 11 a. m., and will participate in a symposium on problems on ocular surgery with Drs. Conrad Berens, Algernon B. Reese, Willis S. Knighton, Wendell L. Hughes, and Raymond E. Meek, New York. Dinner will follow the cocktail hour, 6 p. m.

NORTH CAROLINA

Nalle Clinic Lectures.—On the afternoon of April 23 at the Hotel Barringer, Charlotte, the Nalle Clinic Foundation will present "Recent Advances in Antibiotic Therapy" by Dr. Harry F. Dowling, professor of medicine, University of Illinois College of Medicine, Chicago, under the sponsorship of the Lucius G. Gage Fund. The Brodie C. Nalle lecture will be given in the evening by Dr. Robert A. Kimbrough Jr., professor of gynecology and obstetrics, Graduate School of Medicine of the University of Pennsylvania, Philadelphia, whose topic will be "Management of the Hemorrhages of Pregnancy."

OREGON

Postgraduate Session.—The 19th Sommer memorial lectures, the annual meeting of the University of Oregon Medical School Alumni Association, and the Spring Postgraduate Session of the Oregon Academy of General Practice will be held April 21-23 at the University of Oregon Medical School, Portland. The Sommer memorial lectures will be presented by Dr. Hans Lisser, clinical professor of medicine, University of California Medical School, San Francisco; Dr. Howard K. Gray, professor of surgery, University of Minnesota Graduate School, Minneapolis; and Dr. Earle M. Chapman, clinical associate in medicine, Harvard Medical School, Boston. In accordance with the wishes of the late Dr. Ernst A. Sommer, all physicians of the northwestern states will receive a personal invitation to attend the lectures. The University of Oregon Medical School Alumni Association will present 18 papers by its own members. The Oregon Academy of General Practice lecturers will offer as guest speakers: Drs. John L. Bakke, assistant chief of medical service, Veterans' Administration Hospital, Seattle, and instructor in medicine, University of Washington School of Medicine, Seattle, and C. Henry Kempe, assistant professor in pediatrics, University of California Medical School, San Francisco.

PENNSYLVANIA

Society News.—On April 20 the Allegheny County Medical Society, 225 Jenkins Building, Pittsburgh, will present Dr. Gordon P. McNeer, Memorial Center for Cancer and Allied Diseases, New York, who will discuss surgical aspects of gastric carcinoma.

Personal.—Dr. Lindsey S. McNeely, Kirby, who has been practicing medicine for 63 years and is said to be the oldest practicing physician in the state, was recently honored by the James T. Maxon Post No. 992, American Legion, which presented him with an engraved trophy. In bringing greetings from other physicians in the county, Dr. Grover C. Powell, Waynesburg, president of the Greene County Medical Society, referred to Dr. McNeely as "the grand old man of medicine."

SOUTH CAROLINA

Hospitals Built with Hill-Burton Aid.—A survey of South Carolina's health facilities in 1947, shortly after the Hill-Burton bill became a federal law, showed within the state 4,166 existing acceptable beds in general hospitals. Based on a state civilian population of 1,883,106 and the criteria established by Public Law 725, there were 8,628 general hospital beds needed in the state. The survey showed that 15 of the 46 hospital areas, or counties, had no existing acceptable hospitals. The survey of public health centers showed that only eight county health centers and five auxiliary centers were found acceptable. At the end of the sixth year of the hospital construction program, the number of acceptable general hospital beds will be increased by 2,492, thereby meeting about 69% of the need in this category of facility, and the number of hospital service areas, or counties, having no acceptable beds will be reduced from 15 to 5. To date, South Carolina has completed 66 public health centers, 10 mental health projects, 7 tuberculosis projects, and 23 general hospital projects. Four general hospital projects, including an 11 million dollar teaching hospital at the Medical College of South Carolina (Charleston) are under construction at present. Total Hill-Burton funds allocated to all projects amount to about $16,500,000, and the total cost of construction amounts to about 35 million dollars. Pictures of a few of these projects appear on the opposite page.

Boy Scout Health Lodge.—Through a campaign initiated by the Pee Dee Medical Society (made up of physicians from Chesterfield, Marion, Marlboro, Darlington, Dillon, Horry, and Florence counties) the Camp Coker (Boy Scout) Health Lodge, a combination medical dispensary and infirmary, has been built with funds contributed by physicians of the society and physicians in Lee, Williamsburg, Sumter, and Clarendon counties. The building houses a treatment room, a 3-bed ward room, and sleeping quarters for the physician or medical student on duty. A letter to the society from the scout executive of the Pee Dee area council reads, in part: "I want to thank you on behalf of the 6,000 scouts of this area, for your most generous contribution to Camp Coker, in the form of a permanent Health Lodge. Your Health Lodge is already filling a long needed addition to our camp. . . . This building will serve as a permanent monument to the doctors of the Pee Dee and their interest in the youth of this area. Added to my thanks, will be the thanks of thousands of boys who will use the facilities in the years to come."

TENNESSEE

Portrait of Dr. Francis.—A portrait of the late Dr. Elmer E. Francis, former professor of surgery at the University of Tennessee College of Medicine, Memphis, was presented to the university at a ceremony in which Dr. William C. Colbert, associate professor of medicine and former student and friend of Dr. Francis, made the presentation address, and Orren W. Hyman, Ph.D., dean of the college of medicine, accepted the portrait. Dr. Francis, who taught medical students in Memphis for 44 years before his retirement in 1933, began teaching at the old Memphis Hospital Medical College, which became a part of the University of Tennessee College of Medicine in 1913. In 1897 he was appointed professor of surgery, continuing in that position until his retirement. One of his sons, Dr. Joseph H. Francis, is associate professor of surgery at the college.

State Medical Meeting in Nashville.—The Tennessee State Medical Association will hold its annual meeting April 18-21 at the Maxwell House, Nashville, under the presidency of Dr. Ashby M. Patterson, Chattanooga. "Pancreatitis: Its Diagnosis and Management" will be given as a symposium Monday, 11:10 a. m., with Dr. John W. Adams Jr., Chattanooga, presenting "Diagnosis"; Dr. Robert C. Kimbrough Jr., Knoxville, "Medical Management"; and Dr. Richard V. Fletcher, Chattanooga, "Surgical Management." President's night will be observed Monday, 8 p. m. After the presidential address, Dr. John R. Thompson Jr., Jackson, will deliver the president-elect's in-

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NEW HOSPITALS IN SOUTH CAROLINA

Reading from top and left to right are Hampton County Hospital, Varnville; Greenville General Hospital, Greenville; Lee County Hospital, Bishopville; Good Samaritan-Waverly Hospital, Columbia; Clarendon County Hospital, Manning; Bamberg County Hospital, Bamberg; and Colleton County Hospital, Waterboro.

augural address. The president's luncheon is scheduled for 12:30 p. m. Tuesday. Dr. Leo H. Bartemeier, Detroit, Chairman of the A. M. A. Committee on Mental Health, and a past president of the American Psychiatric Association, will have as his subject "How the Patient Feels About the Doctor." The following symposium on diseases of the thyroid gland will be presented Wednesday, 11:10 a. m.:

Radioiodine in Diagnosis and Treatment, Beverly T. Towery, Nashville.
Medical Management, John D. Hughes, Memphis.
Surgical Management, Bruce R. McCampbell, Knoxville.

Wednesday evening has been designated fun night. A fellowship hour, 6:30 p. m., will precede the dinner ($3.50) at the Club Plantation on Murfreesboro Road. There will be professional entertainment and dancing. The Nashville Academy of Medicine is host.

The Tennessee State Pediatric Society will have as guest speakers Dr. Frederic N. Silverman, director, department of roentgenology, Children's Hospital, Cincinnati, and Dr. Carl E. Badgley, department of orthopedics, University of Michigan Medical School, Ann Arbor. Tuesday afternoon Dr. Silverman will present "Normal Anatomical Variants, Simulating Orthopedic Disease," "Non-Rachitic Bow Legs," and "Unrecognized Skeletal Trauma." Dr. Badgley will discuss "Extrauterine Retention of Fetal Positions" and "The Fibroelastic Diathesis, with the Normal Characteristics." On Wednesday afternoon Dr. Stanley H. Durlacher, Louisiana State University School of Medicine, New Orleans, will read the paper "The Problem of Sudden and Unexpected Death with Particular Emphasis on the Role of the Coronary Arteries" before the Tennessee Pathological Society. The Tennessee chapter, American College of Surgeons, will have as guest speaker, Dr. Henry T. Bahnson, associate professor of surgery, Johns Hopkins University School of Medicine, Baltimore, who will speak on aortic aneurysm at the annual banquet, 7:30 p. m. The Tennessee Academy of General Practice will present a symposium on obstetrics and a symposium on anesthesiology Monday, and will have as guest speaker at the annual banquet Tuesday, Dr. Reuben B. Chrisman, Miami, Fla. The Tennessee Academy of Preventive Medicine and Public Health will hold a luncheon meeting Wednesday, at which the guest speaker Dr. Thomas Francis Jr., professor of epidemiology, University of Michigan School of Public Health, will discuss "The Distribution of Poliomyelitis in the Community."

WEST VIRGINIA

Travel Meeting.—The annual travel meeting of the West Virginia Obstetrical and Gynecological Society is scheduled for April 19-21 with scientific sessions in New York and in Jersey City. The program for Monday will begin at 8 a. m. at the Woman's Hospital, New York, with Dr. Albert H. Aldridge as the speaker. Dr. Gordon W. Douglas will be the guest speaker at the afternoon session, beginning 1:30 p. m. at the Lying-In Hospital, New York. The Tuesday session will begin at 8 a. m. at the University Hospital (formerly the New York Postgraduate Hospital), with Dr. Gray H. Twombly as guest speaker. The schedule calls for free time in the afternoon. Wednesday at 9 a. m. Dr. Samuel A. Cosgrove will be the guest speaker at the Margaret Hague Maternity Hospital in Jersey City. Headquarters will be maintained at the Statler Hotel. Reservations for rooms should be mailed by members of the society directly to Mr. Dennis McGuire at the hotel.

WISCONSIN

Chest Film Enlargements Available.—The Wisconsin State Board of Health, in response to a suggestion by the chest committee of the State Medical Society of Wisconsin, announces that it is prepared to furnish, on request by physicians, copies or enlargements of 70 mm. roentgenograms taken of their patients in mobile unit surveys throughout the state. To expedite such service the state board of health will also serve as a clearing house to locate roentgenograms taken by other agencies that operate independent units. Physicians desiring such information or roentgenograms should communicate with: Division of Tuberculosis Control, Wisconsin State Board of Health, 1 W. Wilson St., Madison 2.

GENERAL

Neurological Surgeons Meet in New York.—The Society of Neurological Surgeons will meet at the Waldorf-Astoria, New York, April 23-24. On Saturday there will be symposiums on increased intracranial pressures and on convulsive disorders.

Courses in Isotope Techniques.—The special training division of the Oak Ridge Institute of Nuclear Studies will offer three basic isotope techniques courses during the summer. The four-week courses will start in June, July, and August. The laboratories, counting room, and lecture room of the special training division have recently been enlarged. Information about the courses may be obtained from the special training division of the institute, P. O. Box 117, Oak Ridge, Tenn.

Meeting on Physical Education.—The national convention of the American Association for Health, Physical Education, and Recreation will be held at the Hotel Statler, New York, April 19-23 under the presidency of Clifford L. Brownell, Ph.D., New York. Dr. Charles C. Wilson, New Haven, Conn., will present "Bright Spots in School Health" before the health education division Tuesday afternoon, and Dr. Howard A. Rusk, New York, will discuss "Dynamic Recreation—An Essential in Rehabilitation" before the recreation division that afternoon.

Greek Physicians Need Help.—An appeal for money, medical books, and medical instruments has been received from the Medical Association of Lakynthos, Greece, situated on an island in the Ionian Sea that was severely damaged by a recent earthquake. The 16 physicians on this island, serving 45,000 people, have lost practically everything they had; not only their own personal equipment, but their instruments and books were destroyed. In their appeal they state: "We do not ask your help for ourselves or for our families, but only for the sake of our patients to whom we doctors all over the world have been dedicated to serve with all our power." Any person who wishes to make a contribution to this cause may do so either directly to the above named association or through the World Medical Association (345 E. 46th St., New York 17), of which Dr. Louis H. Bauer is secretary-general.

Anesthesiologists Meet in Miami Beach.—The Southern Society of Anesthesiologists will hold the annual meeting at the Empress Hotel, Miami Beach, Fla., April 22-24. The president's address, "Some Deficiencies and Misconceptions Concerning the Operation of Appliances for Inhalation Anesthesia," will be delivered by Dr. John Adriani, New Orleans, on Thursday. The Thursday session will end with the film "An Experimental Study of Efocaine" by Drs. William K. Nowill, Helen E. Hall, and George Margolis, Durham, N. C. The Friday meeting will open with "Controlled Respirations with Succinylcholine: A Report of 2,000 Cases" by Drs. Lester Rumble, Alexander R. Gholson, and Harry L. Beckman, Atlanta, Ga., after which Drs. Aubrey J. Waters and Perry P. Volpitto, Augusta, Ga., will present "Evipal Sodium Combined with Decamethonium Bromide for Endotracheal Intubation: A Summary of Four Years' Experience."

Medical Golf Tournament at San Francisco.—The 38th annual American Medical Golfing Association Tournament will be held on Monday, June 21, at Olympic Club at Lakeside, San Francisco. All members of the American Medical Association are eligible for membership in the golfing association. The enrollment fee for new members is $3. Pretournament registration forms will be mailed to all members who request them of the secretary, Bob Elwell; they should be returned with the registration fee for the tournament of $20 and the official handicap, certified by the home club secretary. No handicaps over 30 are allowed. The tournament fee of $20 will include green fees, tournament expenses, luncheon, and banquet at one of the finest golf courses in America.

Prizes for each player are anticipated. In 1950 there were prizes for each of the 311 players. Any person or firm that wishes to contribute a prize should advise the secretary or Dr. Paul S. Wyne, the local committee chairman. Players may compete for prizes in their handicap group or their specialty group. There is only one low gross prize. A winner must be present at the banquet to receive his award.

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The beautiful Olympic Club at Lakeside is a short distance from downtown San Francisco. The club professional, John Bottini, and his wife will supervise starting the players. The tournament is limited to 18 holes, but players will have the privilege of playing an extra 9 holes. The Yellow Cab Company will provide transportation to and from the Olympic Club at Lakeside either singly or up to five persons in a cab. Direction sheets will be available at the A. M. A. registration desk and elsewhere for those who desire to drive their cars.

Dr. Edward Campion of San Rafael, Calif., is president of the American Medical Golfing Association, and Dr. Paul S. Wyne, 450 Sutter Street, San Francisco, is chairman of the local committee. Communications should be addressed to Bob Elwell, Secretary, 3101 Collingwood Blvd., Toledo, Ohio.

CORRECTION

Louisiana State Medical Society.—The JOURNAL, April 10, page 1280, second paragraph, right hand column, stated erroneously that Dr. C. Grenes Cole was editor of the *Louisiana State Medical Journal*. Dr. Cole is general manager of the Louisiana State Medical Society and Dr. Philip H. Jones is editor of the *Louisiana State Medical Journal*.

MEETINGS

AMERICAN MEDICAL ASSOCIATION: Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Secretary.
1954 Annual Meeting, San Francisco, June 21-25.
1954 Clinical Meeting, Miami, Florida, Nov. 29-Dec. 2.
1955 Annual Meeting, Atlantic City, N. J., June 6-10.
1955 Clinical Meeting, Boston, Nov. 29-Dec. 2.
1956 Annual Meeting, Chicago, June 11-15.

AMERICAN ACADEMY OF NEUROLOGY, Shoreham Hotel, Washington, D. C., April 29-May 1. Dr. Alexander T. Ross, 1040 West Michigan St., Indianapolis 7, Secretary.

AMERICAN ASSOCIATION FOR CLEFT PALATE REHABILITATION, Webster Hall Hotel, Pittsburgh, May 14-15. Dr. Jack Matthews, 1617 Cathedral of Learning, University of Pittsburgh, Pittsburgh 13, Secretary.

AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS, Shawnee Inn, Shawnee-on-Delaware, Pa., May 26-28. Dr. John Taylor, 2 East 54th St., New York 22, Secretary.

AMERICAN ASSOCIATION OF THE HISTORY OF MEDICINE, Hotel Taft, New Haven, Conn., May 6-8. Dr. Samuel X. Radbill, 7043 Elmwood Ave., Philadelphia 42, Secretary.

AMERICAN ASSOCIATION ON MENTAL DEFICIENCY, Marlborough-Blenheim Hotel, Atlantic City, N. J., May 18-22. Dr. Neil A. Dayton, P. O. Box 96, Willimantic, Conn., Secretary.

AMERICAN ASSOCIATION FOR THE STUDY OF NEOPLASTIC DISEASES, Lord Baltimore Hotel, and St. Agnes Hospital, Baltimore, April 29-May 1. Dr. Bruce H. Sisler, P. O. Box 268, Gatlinburg, Tenn., Executive Secretary.

AMERICAN ASSOCIATION FOR THORACIC SURGERY, Sheraton-Mt. Royal Hotel, Montreal, Canada, May 3-5. Dr. Paul C. Samson, 2938 McClure St., Oakland 9, Calif., Secretary.

AMERICAN BRONCHO-ESOPHAGOLOGICAL ASSOCIATION, Hotel Statler, Boston, May 25-26. Dr. J. Johnson Putney, 255 South 17th St., Philadelphia 3, Secretary.

AMERICAN COLLEGE OF CARDIOLOGY, Conrad Hilton Hotel, Chicago, May 27-29. Dr. Philip Reichert, 140 West 57th St., New York 19, Secretary.

AMERICAN FEDERATION FOR CLINICAL RESEARCH, Haddon Hall, Atlantic City, N. J., May 2. Dr. Lawrence E. Hinkle Jr., 525 East 68th St., New York 21, Secretary.

AMERICAN GOITER ASSOCIATION, The Somerset, Boston, April 29-May 1. Dr. John C. McClintock, 149½ Washington Ave., Albany 10, N. Y., Secretary.

AMERICAN GYNECOLOGICAL SOCIETY, The Homestead, Hot Springs, Va., May 20-22. Dr. John I. Brewer, 104 South Michigan Blvd., Chicago, Secretary.

AMERICAN LARYNGOLOGICAL ASSOCIATION, Hotel Statler, Boston, May 27-28. Dr. Harry P. Schenck, 325 South 19th St., Philadelphia 3, Secretary.

AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY, Hotel Statler, Boston, May 25-27. Dr. C. Stewart Nash, 277 Alexander St., Rochester 7, N. Y., Secretary.

AMERICAN ORTHOPEDIC ASSOCIATION, Mount Washington Hotel, Bretton Woods, N. H., June 6-9. Dr. George C. Eaton, 4 East Madison St., Baltimore 2, Secretary.

AMERICAN OTOLOGICAL SOCIETY, Hotel Statler, Boston, May 23-24. Dr. John R. Lindsay, 150 East 59th St., Chicago 37, Secretary.

AMERICAN PEDIATRIC SOCIETY, The Inn, Buck Hill Falls, Pa., May 3-5. Dr. A. C. McGuinness, 237 Medical Laboratories, University of Pennsylvania, Philadelphia 4, Secretary.

AMERICAN PROCTOLOGIC SOCIETY, Hotel Statler, Los Angeles, June 2-5. Dr. Stuart T. Ross, 131 Fulton Ave., Hempstead, N. Y., Secretary.

AMERICAN PSYCHIATRIC ASSOCIATION, St. Louis, May 3-7. Dr. R. Finley Gayle Jr., 6300 Three Chopt Road, Richmond 21, Va., Secretary.

AMERICAN SOCIETY FOR CLINICAL INVESTIGATION, Haddon Hall, Atlantic City, N. J., May 3. Dr. William M. M. Kirby, Univ. of Washington School of Medicine, Seattle 5, Secretary.

AMERICAN SOCIETY OF MAXILLOFACIAL SURGEONS, Washington, D. C., April 25-28. Dr. Casper M. Epsteen, 25 East Washington St., Chicago 2, Secretary.

AMERICAN SURGICAL ASSOCIATION, Hotel Cleveland, Cleveland, April 28-30. Dr. R. Kennedy Gilchrist, 59 East Madison St., Chicago 3, Secretary.

AMERICAN TRUDEAU SOCIETY, The Ambassador, Atlantic City, N. J., May 17-21. Dr. William G. Childress, 1790 Broadway, New York 19, Secretary.

AMERICAN UROLOGICAL ASSOCIATION, The Waldorf-Astoria, May 31-June 3. Dr. Charles deT. Shivers, 121 South Illinois Ave., Atlantic City, N. J., Secretary.

ARIZONA MEDICAL ASSOCIATION, San Marcos Hotel, Chandler, April 25-28. Dr. Dermont W. Melick, 541 Security Bldg., Phoenix, Secretary.

ARKANSAS MEDICAL SOCIETY, Goldman Hotel, Fort Smith, April 19-21. Dr. J. J. Monfort, 215 Kelley Bldg., Fort Smith, Secretary.

ASSOCIATION OF AMERICAN PHYSICIANS, Chalfonte-Haddon Hall, Atlantic City, N. J., May 4-5. Dr. W. Barry Wood Jr., 600 S. Kingshighway Blvd., St. Louis 10, Secretary.

CALIFORNIA MEDICAL ASSOCIATION, Hotel Biltmore, Los Angeles, May 9-13. Mr. John Hunton, 450 Sutter St., San Francisco 8, Executive Secretary.

CATHOLIC HOSPITAL ASSOCIATION OF THE UNITED STATES AND CANADA, Atlantic City, N. J., May 17-20. Rev. John J. Flanagan, 1438 South Grand Blvd., St. Louis 4, Director.

CONNECTICUT STATE MEDICAL SOCIETY, Bulkeley High School, Hartford, April 27-29. Dr. Creighton Barker, 160 St. Ronan St., New Haven, Executive Secretary.

EASTERN STATES HEALTH EDUCATION CONFERENCE, New York Academy of Medicine, New York, April 29-30. Dr. Iago Galdston, 2 East 103d St., New York 19, Secretary.

FLORIDA MEDICAL ASSOCIATION, Hollywood Beach Hotel, Hollywood, April 25-28. Dr. Samuel M. Day, P. O. Box 1018, Jacksonville, Secretary.

GEORGIA, MEDICAL ASSOCIATION OF, Hotel Dempsey and Macon Auditorium, Macon, May 2-5. Dr. David H. Poer, 875 West Peachtreet St. N.E., Atlanta, Secretary.

HAWAII MEDICAL ASSOCIATION, Maybel Smyth Bldg., Honolulu, May 13-16. Dr. Samuel L. Yee, 510 S. Beretania St., Honolulu 13, Secretary.

ILLINOIS STATE MEDICAL SOCIETY, Hotel Sherman, Chicago, May 18-21. Dr. Harold M. Camp, 224 South Main St., Monmouth, Secretary.

INDUSTRIAL HEALTH CONFERENCE, Hotel Sherman, Chicago, April 24-30. Dr. E. C. Holmblad, 28 East Jackson Blvd., Chicago 4, Managing Director.

INDUSTRIAL MEDICAL ASSOCIATION, Hotel Sherman, Chicago, April 27-30. Dr. Arthur K. Peterson, 28 East Jackson Blvd., Suite 1300, Chicago 4, Secretary.

IOWA STATE MEDICAL SOCIETY, Des Moines, April 25-28. Dr. Allan B. Phillips, 529 36th St., Des Moines 12, Secretary.

KANSAS MEDICAL SOCIETY, Hotel Jayhawk, Topeka, May 2-6. Dr. D. D. Vermillion, 315 West Fourth St., Topeka, Secretary.

LOUISIANA STATE MEDICAL SOCIETY, Roosevelt Hotel, New Orleans, May 20-22. Dr. C. Grenes Cole, 1430 Tulane Ave., New Orleans 12, Secretary.

MARYLAND, MEDICAL AND CHIRURGICAL FACULTY OF THE STATE OF, Baltimore, April 27-28. Dr. Everett S. Diggs, 1211 Cathedral St., Baltimore, Secretary.

MASSACHUSETTS MEDICAL SOCIETY, Hotel Statler, Boston, May 18-20. Dr. Robert W. Buck, 22 Fenway, Boston 15, Secretary.

MEDICAL SURGICAL CONFERENCE, Meadow Lark Country Club, Great Falls, Mont., June 14-15. Dr. John A. Layne, Box 911, Great Falls, Mont., Chairman.

MINNESOTA STATE MEDICAL ASSOCIATION, Hotel Duluth, Duluth, June 7-9. Dr. B. B. Souster, 490 Lowry Medical Arts Bldg., St. Paul 2, Secretary.

MISSISSIPPI STATE MEDICAL ASSOCIATION, Hotel Heidelberg, Jackson, May 11-13. Mr. R. B. Kennedy, 507 First Federal Bldg., Jackson, Executive Secretary.

NATIONAL CONFERENCE ON HEALTH IN COLLEGES, Hotel Statler, New York, May 5-8. Miss Charlotte V. Leach, 12th Floor, 1790 Broadway, New York 19, Secretary.

NATIONAL TUBERCULOSIS ASSOCIATION, Ambassador, Chelsea and Ritz-Carlton Hotels, Atlantic City, N. J., May 17-21. Mr. Kemp D. Battle, 1790 Broadway, New York 19, Secretary.

NEBRASKA STATE MEDICAL ASSOCIATION, Hotel Cornhusker, Lincoln, May 10-13. Dr. R. B. Adams, 1315 Sharp Bldg., Lincoln 8, Secretary.

NEW JERSEY, MEDICAL SOCIETY OF, Haddon Hall, Atlantic City, May 16-19. Dr. Marcus H. Greifinger, 315 West State St., Trenton 8, Secretary.

NEW MEXICO MEDICAL SOCIETY, Hotel LaFonda, Santa Fe, May 13-15. Mr. R. R. Marshall, 221 West Central Ave., Albuquerque, Executive Secretary.

NEW YORK, MEDICAL SOCIETY OF THE STATE OF, Hotel Statler, New York, May 10-14. Dr. Walter P. Anderton, 386 Fourth Avenue, New York 16, Secretary.

NORTH CAROLINA, MEDICAL SOCIETY OF THE STATE OF, Hotel Carolina, Pinehurst, May 3-5. Dr. Millard D. Hill, 203 Capital Club Bldg., Raleigh, Secretary.

NORTH DAKOTA STATE MEDICAL ASSOCIATION, Grand Forks, May 1-4. Mr. Lyle A. Limond, Box 1198, Bismarck, Executive Secretary.

OKLAHOMA STATE MEDICAL ASSOCIATION, Municipal Auditorium, Oklahoma City, May 9-12. Mr. R. H. Graham, 1227 Classen Drive, Oklahoma City, Executive Secretary.

PACIFIC NORTHWEST SOCIETY OF PATHOLOGISTS, Amphitheater, Dept. of Pathology, University of Washington School of Medicine, Seattle, April 23-24. Dr. John L. Whitaker, 315 South K St., Tacoma 3, Wash., Secretary.

RHODE ISLAND MEDICAL SOCIETY, Rhode Island Medical Society Library, Providence, May 5-6. Dr. Thomas Perry Jr., 106 Francis St., Providence 3, Secretary.

SOCIETY OF AMERICAN BACTERIOLOGISTS, William Penn Hotel, Pittsburgh, May 2-7. Dr. John Hays Bailey, Sterling-Winthrop Research Institute, Rensselaer, N. Y., Secretary.

SOCIETY OF NEUROLOGICAL SURGEONS, The Waldorf Astoria, New York, April 23-24. Dr. Edgar F. Fincher, Emory University, Ga., Secretary.

SOCIETY FOR PEDIATRIC RESEARCH, Buck Hill Falls Inn, Buck Hill Falls, Pa., May 4-6. Dr. Sydney S. Gellis, 330 Brookline Ave., Boston 15, Secretary.

SOUTH CAROLINA MEDICAL ASSOCIATION, Ocean Forest Hotel, Myrtle Beach, May 11-13. Dr. Robert Wilson, 165 Rutledge Ave., Charleston, Secretary.

SOUTH DAKOTA STATE MEDICAL ASSOCIATION, Marvin Hughitt Hotel, Huron, May 18-20. Mr. J. C. Foster, 300 First National Bank Bldg., Sioux Falls, Secretary.

SOUTHWEST ALLERGY FORUM, Roosevelt Hotel, New Orleans, May 9-11. Dr. Stanley Cohen, S. W. Allergy Forum, 1441 Delachaise St., New Orleans 15, Secretary.

STUDENT AMERICAN MEDICAL ASSOCIATION, Sherman Hotel, Chicago, May 1-3. Mr. Russell F. Staudacher, 535 N. Dearborn St., Chicago 10, Executive Secretary.

TENNESSEE STATE MEDICAL ASSOCIATION, Nashville, April 18-21. Mr. V. O. Foster, 706 Church St., Nashville 3, Executive Secretary.

TEXAS MEDICAL ASSOCIATION, Gunter Hotel, San Antonio, May 3-5. Dr. J. M. Travis Sr., 1801 Lamar Blvd., Austin, Secretary.

UTAH STATE MEDICAL ASSOCIATION, Ogden, May 26-28. Dr. Homer E. Smith, 42 S. Fifth East St., Salt Lake City 2, Secretary.

WESTERN BRANCH, AMERICAN PUBLIC HEALTH ASSOCIATION, Olympic Hotel, Seattle, May 9-12. Mrs. L. Amy Darter, Division of Laboratories, State Dept. of Public Health, Berkeley, Calif., Secretary.

WESTERN INDUSTRIAL MEDICAL ASSOCIATION, Hotel Biltmore, Los Angeles, May 8. Dr. Edward J. Zalk, 740 S. Olive St., Los Angeles 14, Secretary.

WYOMING STATE MEDICAL SOCIETY, Kalif Temple, Sheridan, June 7-9. Dr. Royce D. Tebbet, Box 1252, Cheyenne, Secretary.

FOREIGN AND INTERNATIONAL

ASSOCIATION OF SURGEONS OF GREAT BRITAIN AND IRELAND, Leeds, England, May 13-15, 1954. Dr. Henry W. S. Wright, 45 Lincoln's Inn Fields, London W.C.2, England, Honorary Secretary.

BRITISH MEDICAL ASSOCIATION, Glasgow, Scotland, July 1-9, 1954. Dr. A. Macrae, B.M.A. House, Tavistock Square, London, W.C.1, England, Secretary.

CANADIAN MEDICAL ASSOCIATION, Vancouver, B. C., Canada, June 14-18, 1954. Dr. T. C. Routley, 244 St. George St., Toronto 5, Ontario, Canada, General Secretary.

CONFERENCE OF INTERNATIONAL UNION AGAINST TUBERCULOSIS, Madrid, Spain, Sept. 26-Oct. 2, 1954. Secretariat, Escuela de Tisiologia, Ciudad Universitaria, Madrid, Spain.

CONGRESS OF INTERNATIONAL ASSOCIATION FOR THE PREVENTION OF BLINDNESS, New York, N. Y., U. S. A., Sept. 12-17, 1954. Professor Franceschetti, 2 Avenue Mirmot, Geneva, Switzerland, Secretary-General.

CONGRESS OF INTERNATIONAL ASSOCIATION FOR THE STUDY OF THE BRONCHI, Geneva, Switzerland, June 5-6, 1954. Professor A. Montandon, Clinique Universitarie d O.R.L., Hôpital Cantonal, Geneva, Switzerland, Chairman.

EUROPEAN SOCIETY OF CARDIOVASCULAR SURGERY, Edinburgh, Scotland, July 9-10, 1954. For information address: Mr. A. J. Slessor, Department of Surgery, University New Building, Edinburgh 8, Scotland.

HEALTH CONGRESS OF THE ROYAL SANITARY INSTITUTE, Scarborough, England, April 27-30, 1954. Mr. P. Arthur Wells, Royal Sanitary Institute, 90 Buckingham Palace Road, London, S.W.1, England, Secretary.

INTERNATIONAL ANESTHESIA RESEARCH SOCIETY, Ambassador Hotel, Los Angeles, Calif., U. S. A., Oct. 10-14, 1954. For information write: Dr. T. H. Seldon, 102-110 Second Avenue S.W., Rochester, Minn., U. S. A.

INTERNATIONAL CANCER CONGRESS, Sao Paulo, Brazil, July 23-29, 1954. Prof. A. Prudente, 171 rua Benjamin Constante, Sao Paulo, Brazil, President.

INTERNATIONAL CONFERENCE ON THROMBOSIS AND EMBOLISM, Basle, Switzerland, July 20-24, 1954. Dr. W. Merz, Chief Medical Officer, Gynecological Clinic, University of Basle, Basle, Switzerland, Hon. Secretary.

INTERNATIONAL CONGRESS OF CLINICAL PATHOLOGY, Washington, D. C., U. S. A., Sept. 6-10, 1954. Dr. Robert A. Moore, Washington University School of Medicine, St. Louis 10, Mo., U. S. A., Chairman, Committee on Arrangements.

INTERNATIONAL CONGRESS ON DISEASES OF THE CHEST, Barcelona, Spain, Oct. 4-8, 1954. Mr. Murray Kornfeld, 112 East Chestnut St., Chicago 11, Ill., U. S. A., Executive Secretary.

INTERNATIONAL CONGRESS ON GROUP PSYCHOTHERAPY, Toronto, Ont., Canada, Aug. 12-14, 1954. Dr. J. L. Moreno, Room 327, 101 Park Ave., New York 17, N. Y., U. S. A., Director of Organizing Committee.

INTERNATIONAL CONGRESS ON GYNECOLOGY AND OBSTETRICS, Geneva, Switzerland, July 26-31, 1954. Dr. H. de Watteville, Maternité Hôpital Cantonal, Geneva, Switzerland, President.

INTERNATIONAL CONGRESS OF HEMATOLOGY, Paris, Sept. 6-11, 1954. Dr. Jean Bernard, 86 rue d'Assas, Paris 6e, France, Secretary.

INTERNATIONAL CONGRESS OF THE HISTORY OF MEDICINE, Rome and Salerno, Italy, Sept. 13-20, 1954. For information write: Segreteria XIV Congresso Internazionale di Storia della Medicina, Instituto di Storia della Medicine, Citta Universitaria, Rome, Italy.

INTERNATIONAL CONGRESS OF HYDROCLIMATISM AND THALASSOTHERAPY, Opatija, Yugoslavia, May 8-13, 1954. Prof. C. Plavsic, Zeleni venac 1, Belgrade, Yugoslavia, Secretary General.

INTERNATIONAL CONGRESS OF INDUSTRIAL MEDICINE, Naples, Italy, Sept. 13-19, 1954. Professor Scipione Cacciuri, Director, Institute of Industrial Medicine Policlinico, Naples, Italy, Chairman, Organizing Committee.

INTERNATIONAL CONGRESS OF INTERNAL MEDICINE, Stockholm, Sweden, Sept. 15-18, 1954. Professor Anders Kristenson, Karolinska Sjukhuset, Stockholm 60, Sweden, Secretary-General.

INTERNATIONAL CONGRESS OF INTERNATIONAL COLLEGE OF SURGEONS, Sao Paulo, Brazil, April 26-May 2, 1954. Dr. Max Thorek, 1516 Lake Shore Drive, Chicago, Ill., U. S. A., Secretary-General.

INTERNATIONAL CONGRESS ON MENTAL HEALTH, University of Toronto, Toronto, Ontario, Canada, Aug. 14-21, 1954. For information write: Executive Officer, International Congress on Mental Health, 111 St. George St., Toronto, Ontario, Canada.

INTERNATIONAL CONGRESS OF MILITARY MEDICINE AND PHARMACY, Buenos Aires, Argentine, April 21-28, 1954. Direcion General de Sanidad Militar, Pozos 2045, Buenos Aires, Argentine.

INTERNATIONAL CONGRESS OF NUTRITION, Amsterdam, Netherlands, Sept. 13-17, 1954. Dr. M. van Eekelen, Centraal Instituut voor Voedingsonderzoek T.N.O., 61 Catharynesingel, Utrecht, Netherlands, General Secretary.

INTERNATIONAL CONGRESS OF OPHTHALMOLOGY, University of Montreal and McGill University, Montreal, Canada, Sept. 9-11, 1954, and Waldorf-Astoria, New York, N. Y., U. S. A., Sept. 12-17, 1954. Dr. William L. Benedict, 100 First Avenue Building, Rochester, Minn., U. S. A., Secretary-General.

INTERNATIONAL CONGRESS OF ORTHOPEDIC SURGERY AND TRAUMATOLOGY, Berne, Switzerland, Aug. 30-Sept. 3, 1954. For information write: Professor M. Dubois, Isle-Hospital, Berne, Switzerland.

INTERNATIONAL CONGRESS OF PSYCHOLOGY, Montreal, Canada, June 7-12, 1954. For information write: Prof. H. S. Langfeld, International Union of Scientific Psychology, Eno Hall, Princeton University, Princeton, N. J., U. S. A.

INTERNATIONAL CONGRESS FOR PSYCHOTHERAPY, Zurich, Switzerland, July 21-24, 1954. Dr. H. K. Fierz, Theaterstrasse 12, Zurich 1, Switzerland, Secretary General.

INTERNATIONAL CONGRESS OF THE SOCIEDAD DE MÉDICOS INTERNOS, Residentes y Becarios del Instituto Nacional de Cardiologia de Mexico, Acapulco, Mexico, April 21-24, 1954. For information address: Dr. Jorge Soberón Acevedo, Avenida, Cuauhtemoc No. 300, Mexico, D. F., Mexico.

INTERNATIONAL GERONTOLOGICAL CONGRESS, London and Oxford, England, July 12-22, 1954. Prof. R. E. Tunbridge, General Infirmary, Department of Medicine, The University, Leeds, England, President.

INTERNATIONAL INSTITUTE ON CHILD PSYCHIATRY, Toronto, Canada, Aug. 13-14, 1954. Miss Helen Speyer, International Association for Child Psychiatry, 1790 Broadway, New York 19, N. Y., U. S. A., Executive Officer.

INTERNATIONAL POLIOMYELITIS CONGRESS, University of Rome, Orthopedic Clinic, Rome, Italy, Sept. 6-10, 1954. Mr. Stanley E. Henwood, 120 Broadway, New York 5, N. Y., U. S. A., Executive Secretary.

INTERNATIONAL SOCIETY OF ANGIOLOGY, North American Chapter, Hotel Mark Hopkins, San Francisco, Calif., U. S. A., June 19, 1954. Dr. Henry Haimovici, 105 East 90th St., New York, N. Y., U. S. A., Secretary.

INTERNATIONAL SOCIETY OF BLOOD TRANSFUSION, Paris, France, Sept. 12-19, 1954. For information write: Colonel Julliard, Société Internationale de Transfusion Sanguine, 53 Boulevard Diderot, Paris 12e, France.

INTERNATIONAL SOCIETY FOR CELL BIOLOGY, Leiden, Netherlands, Sept. 2-9, 1954. Professor Peter J. Gaillard, University of Leiden, Leiden, Netherlands, Secretary.

INTERNATIONAL SOCIETY OF GEOGRAPHICAL PATHOLOGY, Washington, D. C., U. S. A., Sept. 6-10, 1954. Professor Fred C. Roulet, Hebelstrasse 24, Basel, Switzerland, Secretary-General.

IRISH MEDICAL ASSOCIATION, Killarney, Ireland, July 7-10, 1954. Dr. P. J. Delaney, 10, Fitzwilliam Place, Dublin, Ireland, Medical Secretary.

JOURNÉES MÉDICALES, Paris, France, April 21-25, 1954. For information write: Secretariat of the Journees, 12, rue Pierre-Geoffroix, Colombes (Seine) France.

LATIN AMERICAN CONGRESS ON GYNECOLOGY AND OBSTETRICS, Sao Paulo, Brazil, July 10-15, 1954. Prof. Dr. Jairo Ramos, av. Brigadeiro Luiz Antonio, 278-8° andar, Sao Paulo, Brazil, Chairman of Organizing Committee of Medical Congresses.

LATIN AMERICAN CONGRESS ON MENTAL HEALTH, Sao Paulo, Brazil, July 17-22. For information address: Professor A. C. Pacheco e Silva, Avenida Brigadeiro Luiz Antonio 651, Sao Paulo, Brazil.

MEDICAL WOMEN'S INTERNATIONAL ASSOCIATION CONGRESS, Lake Garda, Italy, Sept. 15-21, 1954. Dr. Ada Chree Reid, 118 Riverside Drive, New York 24, N. Y., U. S. A., President.

PAN AMERICAN CONGRESS OF CHILD WELFARE AND PEDIATRICS, Sao Paulo, Brazil, July 15-21, 1954. For information address: Dr. Jairo Ramos, Avenida Brigadeiro Luiz Antonio 278-8° andar, Sao Paulo, Brazil.

PAN AMERICAN CONGRESS OF GASTROENTEROLOGY, Sao Paulo, Brazil, July 19-24, 1954. For information address: Dr. Jairo Ramos, Avenida Brigadeiro Luiz Antonio 278-8° andar, Sao Paulo, Brazil.

PAN AMERICAN CONGRESS OF OPHTHALMOLOGY (Interim), Sao Paulo, Brazil, June 17-21, 1954. Dr. Moacyr E. Alvaro, Consolacao 1151, Sao Paulo, Brazil, President.

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PAN AMERICAN HOMEOPATHIC MEDICAL CONGRESS, Hotel Gloria, Rio de Janeiro, Brazil, S. A., Oct. 2-13, 1954. Dr. Paul S. Schantz, 103 West Main St., Ephrata, Pa., U. S. A., Executive Secretary.

PAN-PACIFIC SURGICAL CONGRESS, Honolulu, Hawaii, Oct. 7-18, 1954. Dr. F. J. Pinkerton, Suite 7, Young Bldg., Honolulu 13, Hawaii, Director General.

SECTIONAL MEETING, AMERICAN COLLEGE OF SURGEONS, London, England, May 17-19, 1954. Dr. Michael L. Mason, 40 East Erie St., Chicago 11, Ill., U. S. A., Secretary.

SOUTH AMERICAN CONGRESS OF ANGIOLOGY, Sao Paulo, Brazil, July 1954. For information write: Dr. Rubens Carlos Mayall, Rua Senador Vergueiro 73, Rio de Janeiro, Brazil, S. A.

WORLD CONGRESS OF CARDIOLOGY, Washington, D. C., U. S. A., Sept. 12-18, 1954. Dr. L. W. Gorham, 44 East 23d St., New York 10, N. Y., U. S. A., Secretary-General.

WORLD CONGRESS OF INTERNATIONAL SOCIETY FOR THE WELFARE OF CRIPPLES, Scheveningen-The Hague, Netherlands, Sept. 13-17, 1954. Secretariat: Miss H. P. Post, Pieter Lastmarkade 37, Amsterdam Z, Netherlands.

WORLD FEDERATION OF OCCUPATIONAL THERAPISTS, Edinburgh, Scotland, August 17, 1954.

WORLD MEDICAL ASSOCIATION, Rome, Italy, Sept. 26-Oct. 2, 1954. Dr. Louis H. Bauer, 345 East 46th St., New York 17, N. Y., U. S. A., Secretary-General.

EXAMINATIONS AND LICENSURE

NATIONAL BOARD OF MEDICAL EXAMINERS: *Parts I and II.* Held in approved medical schools where there are five or more candidates. Dates: April 20-21 (Part II only); June 22-23; Sept. 7-8 (Part I only). Candidates may file examinations at any time but the National Board must receive them at least six weeks before the date of the examination they wish to take. New candidates should apply by formal registration; registered candidates should notify the board by letter. Sec., Dr. John P. Hubbard, 133 S. 36th St., Philadelphia 4.

BOARDS OF MEDICAL EXAMINERS

ALABAMA: *Examination.* Montgomery, June 22-24, 1954. Sec., Dr. D. G. Gill, 537 Dexter Ave., Montgomery.

ARIZONA:* *Examination.* Phoenix, April 21-23. *Reciprocity.* Phoenix, April 24. Sec., Mr. Robert Carpenter, 541 Security Bldg., Phoenix.

ARKANSAS:* *Examination.* Little Rock, June 10-11. Sec., Dr. Joe Verser, Harrisburg. *Eclectic.* Little Rock, June 11-12. Sec., Dr. O. L. Atkinson, 2528 Central Ave., Hot Springs National Park.

CALIFORNIA: *Written.* San Francisco, June 21-24; San Diego, Aug. 23-26; Sacramento, Oct. 18-21. *Oral* San Francisco, June 19; San Diego, Aug. 21; Los Angeles, Nov. 20. *Oral and Clinical Examination for Foreign Medical School Graduates.* Sec., Dr. Louis E. Jones, 1020 N Street, Sacramento.

COLORADO:* *Examination.* Denver, June 8-9. Final date for filing application is May 8. *Reciprocity.* Denver, April 13. Final date for filing applications was March 13. Exec. Sec., Mrs. Beulah H. Hudgens, 831 Republic Bldg., Denver 2.

CONNECTICUT:* *Regular. Examination.* Hartford, July 13-14. Sec., Dr. Creighton Barker, 160 St. Ronan St., New Haven *Homeopathic.* Derby, July 13-14. Sec., Dr. Donald A. Davis, 38 Elizabeth St., Derby.

DELAWARE: *Examination.* Dover, July 13-15. *Reciprocity.* Dover, July 22. Sec., Dr. J. S. McDaniel, 229 South State St., Dover.

DISTRICT OF COLUMBIA:* *Examination.* Washington, May 10-11. Deputy Director, Mr. Paul Foley, Department of Occupations and Professions, 1740 Massachusetts Ave., N.W., Washington, D. C.

FLORIDA:* *Examination.* Jacksonville, June 27-29. Sec., Dr. Homer L. Pearson, 901 N.W. 17th St., Miami.

GEORGIA: *Examination and Reciprocity.* Atlanta and Augusta, June. Sec., Mr. R. C. Coleman, 111 State Capitol, Atlanta 3.

GUAM: The Commission on Licensure will meet whenever a candidate appears or submits his credentials. Director of Medical Services, Guam Memorial Hospital, Agana.

IDAHO: *Examination and Endorsement.* Boise, June 12-14. Sec., Mr. Armand L. Bird, 364 Sonna Bldg., Boise.

ILLINOIS: *Examination and Reciprocity.* Chicago, June 22-24, and Oct. 5-7. Supt. of Registration, Mr. Frederic B. Selcke, Capitol Bldg., Springfield.

INDIANA: *Examination.* Indianapolis, June 16-18. Exec. Sec., Miss Ruth V. Kirk, 538 K of P Bldg., Indianapolis.

IOWA:* *Examination.* Iowa City, June 14-16. Sec., Dr. M. A. Royal, 506 Fleming Bldg., Des Moines.

KANSAS: *Examination and Reciprocity.* Kansas City, June 9-10. Sec., Dr. O. W. Davidson, 872 New Brotherhood Bldg., Kansas City.

KENTUCKY: *Examination.* Louisville, June 7-9. Address Mr. Raymond F. Dixon, Assistant Secretary, 620 S. 3rd St., Louisville 2.

MAINE: *Examination and Endorsement.* Augusta, July 13-14. Sec., Dr. Adam P. Leighton, 192 State St., Portland.

MARYLAND: *Examination.* Baltimore, June 15-18. Sec., Dr. E. H. Kloman, 1215 Cathedral St., Baltimore 1.

MASSACHUSETTS: *Examination.* Boston, July 13-16. Sec., Dr. Robert C. Cochrane, Room 37, State House, Boston.

MICHIGAN:* *Examination.* Detroit and Ann Arbor, June 1954. Sec., Dr. J. Earl McIntyre, 202-4 Hollister Bldg., Lansing 8.

MINNESOTA:* *Examination.* Minneapolis, April 20-22. Sec., Dr. E. M. Jones, 230 Lowry Medical Arts Bldg., St. Paul 2.

MISSISSIPPI: *Examination and Reciprocity.* Jackson, June. Asst. Sec., Dr. R. N. Whitfield, Old Capitol, Jackson 113.

NEBRASKA:* *Examination.* Omaha, June 1954. Director, Mr. Husted K. Watson, 1009 State Capitol Bldg., Lincoln.

NEVADA:* *Examination and Endorsement.* Reno, July 6. Sec., Dr. George H. Ross, 112 North Curry St., Carson City.

NEW JERSEY: *Examination.* Trenton, June 15-18. Sec., Dr. E. S. Hallinger, 28 W. State St., Trenton.

NEW YORK: *Examination.* Albany, New York, Syracuse and Buffalo, June 29-July 2. Sec., Dr. Stiles D. Ezell, 23 S. Pearl St., Albany 7.

NORTH CAROLINA: *Examination.* Raleigh, June 21-24. *Endorsement.* Pinehurst, May 3; Raleigh, June 22. Sec., Dr. Joseph J. Combs, 716 Professional Bldg., Raleigh.

OHIO: *Examination.* Columbus, June 14-16. Sec., Dr. H. M. Platter, 21 W. Broad St., Columbus.

OKLAHOMA:* *Examination.* Oklahoma City, June 9-10. Sec., Dr. Clinton Gallaher, 813 Braniff Bldg., Oklahoma City.

OREGON:* *Examination.* Portland, April 23. Final date for filing applications is March 22. Ex. Sec., Mr. Howard I. Bobbitt, 609 Failing Bldg., Portland.

PENNSYLVANIA: *Examination.* Philadelphia and Pittsburgh, July 13-15. Acting Sec., Mrs. Margaret G. Steiner, Box 911, Harrisburg.

SOUTH CAROLINA: *Reciprocity.* Myrtle Beach, May 11. Sec., Mr. N. B. Heyward, 1329 Blanding St., Columbia.

SOUTH DAKOTA:* Reciprocity can be obtained at any time between meetings of board. Executive Secretary, Mr. John C. Foster, 300 First National Bank Bldg., Sioux Falls.

TEXAS: *Examination and Reciprocity.* Fort Worth, June 21-23. Rec., Dr. M. H. Crabb, 1714 Medical Arts Bldg., Ft. Worth 2.

UTAH: *Examination.* Salt Lake City, July 7-9. Final date for filing application is June 15. *Reciprocity.* Salt Lake City, June 15. Director, Mr. Frank E. Lees, Department of Business Regulation, 314 State Capitol, Salt Lake City.

VIRGINIA: *Examination and Reciprocity.* Richmond, June 16. Address: Virginia Board of Medical Examiners, 631 First St., S.W., Roanoke.

WEST VIRGINIA: *Reciprocity.* Charleston, April 19. Sec., Dr. N. H. Dyer, State Office Building, Charleston 5.

WISCONSIN:* *Reciprocity.* Madison, April 23. Sec., Dr. Thomas W. Tormey, Jr., State Office Building, Madison.

WYOMING: *Examination.* Cheyenne, June 14. Sec., Dr. Franklin D. Yoder, State Office Bldg., Cheyenne.

ALASKA:* On application. Sec., Dr. W. M. Whitehead, 172 South Franklin St., Juneau.

VIRGIN ISLANDS: *Examination.* St. Thomas, June 9-10. Sec., Dr. Earle M. Rice, St. Thomas.

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

ALASKA: On application. Juneau or other towns in Territory as decided by Board. *Reciprocity.* On application. Sec., Dr. C. Earl Albrecht, Box 1931, Juneau.

ARIZONA: *Examination.* Tucson, June 15. Sec., Mr. Herbert D. Rhodes, University of Arizona, Tucson.

ARKANSAS: *Examination.* Little Rock, May 3-4. Sec., Mr. Louis E. Gebauer, 1002 Donaghey Bldg., Little Rock.

COLORADO: *Examination.* Denver, May 5-6. Sec., Dr. Esther B. Starks, 1459 Ogden St., Denver 18.

CONNECTICUT: *Examination.* New Haven, June 12. Address: State Board of Healing Arts, 258 Bradley St., New Haven 10.

FLORIDA: *Examination.* Gainesville, June. Sec., Mr. M. W. Emmel, University of Florida, Box 340, Gainesville.

MINNESOTA: *Examination.* June 2-3. Sec., Dr. Raymond H. Bieter, 105 Millard Hall, University of Minnesota, Minneapolis.

NEBRASKA: *Examination.* Omaha, May 4-5. Director, Mr. Husted K. Watson, 1009 State Capitol Bldg., Lincoln 9.

NEW MEXICO: *Examination.* Santa Fe, July 18. Sec., Mrs. Marguerite Cantrell, P. O. Box 1522, Santa Fe.

OKLAHOMA: *Examination.* Oklahoma City, April 16-17. Sec., Dr. Clinton Gallaher, 813 Braniff Bldg., Oklahoma City.

OREGON: *Examination.* Portland, June 5, Sept. 11 and Dec. 4. Sec., Mr. Charles D. Byrne, State Board of Higher Education, Eugene.

RHODE ISLAND: *Examination.* Providence, May 12. Administrator of Professional Regulation, Mr. Thomas B. Casey, 366 State Office Bldg., Providence.

SOUTH DAKOTA: *Examination.* June 11-12. Sec., Dr. Gregg M. Evans, 310 E. 15th St., Yankton.

TEXAS: *Examination.* Austin, April 23-24. Sec., Brother Raphael Wilson, C.S.C., 407 Perry-Brooke Bldg., Austin.

WISCONSIN: *Examination.* Madison, June 5. Final date for filing application is May 28. Sec., Dr. W. H. Barber, 621 Ransom St., Ripon.

*Basic Science Certificate required.

DEATHS

Robey, William Henry ✦ Boston; born in Boston July 3, 1870; Harvard Medical School, Boston, 1895; member of the House of Delegates of the American Medical Association in 1919, 1921, 1925, and from 1929 to 1935; past president of the Massachusetts Medical Society and in 1929 Shattuck lecturer; past president of the Northeast Heart Association, Suffolk District Medical Society, and the New England Heart Association; honorary life member, past president, and member of the founders group for scientific research of the American Heart Association, which in the fall of 1953 awarded him its silver medallion for distinguished service; member of the American Clinical and Climatological Association, Delta Upsilon, and Pi Gamma Mu; honorary member of Phi Beta Pi; fellow of the American Association for the Advancement of Science and the American College of Physicians; specialist certified by the American Board of Internal Medicine; since 1932 clinical professor of medicine emeritus at his alma mater, where he joined the faculty in 1900 as assistant in bacteriology, serving at various times as assistant in medicine, instructor in medicine, assistant professor in medicine, and clinical professor of medicine; George W. Gay lecturer at Harvard in 1930; during World War I served as major in the Medical Corps of the U. S. Army, as chief of medical service at Camp McClellan, and as lieutenant colonel and consultant in medicine of the advance section, American Expeditionary Forces; colonel, Medical Officers Reserve Corps; consultant at Milton (Mass.) Hospital and Convalescent Home, Marlborough Hospital, Marlboro, Norwood (Mass.) Hospital, and the Boston City Hospital; author of "Causes of Heart Failure" in 1922 and "Headache," 1930; editor of "Health at Fifty," 1939; died Feb. 23, aged 83, of heart disease.

Goldstine, Mark T. ✦ Chicago; born in Chicago Sept. 28, 1878; Rush Medical College, Chicago, 1900; joined the faculty of Northwestern University Medical School in 1911 as a clinical assistant, and in 1943 became a full professor, in which capacity he served until retiring as emeritus professor; specialist certified by the American Board of Obstetrics and Gynecology; past president of the Chicago Gynecological Society; an Associate Fellow of the American Medical Association; fellow of the American College of Surgeons; member of the Central Association of Obstetricians and Gynecologists; for many years an active member of the board of trustees of the Wesley Memorial Hospital, where he was a member of the staff since 1902, serving for 30 years as chairman of the department of obstetrics and gynecology, a post he held until reaching the age of 65, when he was named chairman emeritus; doctors, trustees, nurses, and other friends contributed to a fund, and on Jan. 25, 1947, a bronze plaque honoring his long service was unveiled at ceremonies at the hospital; since 1936 director of the Davella Mills Foundation at Wesley; on Feb. 11, 1954, awarded membership in the Methodist Hall of Fame in Philanthropy, the Society of the Healing and Helping Hand, by the Board of Hospitals and Homes of the Methodist Church, for his outstanding contributions to Methodist hospitals and homes during more than half a century; died while on vacation in Thomasville, Ga., March 4, aged 75, of cerebral hemorrhage.

Geier, Otto Philip ✦ Cincinnati; born in Cincinnati April 27, 1874; Medical College of Ohio, Cincinnati, 1897; member of the House of Delegates of the American Medical Association in 1918; an organizer in 1915, formerly director, and in 1921-1922 president of the American Association of Industrial Physicians and Surgeons, now known as the Industrial Medical Association, which in 1947 honored him for his "distinguished work in the pioneering and organization of medical service in industry"; as city welfare director from 1912 to 1914, helped organize and systematize a local department of charities and corrections; past president of the Anti-Tuberculosis League and Day Camp Association and initiated Christmas Seals in Cincinnati; for many years a member of the Milk Commission of the Cincinnati Academy of Medicine, of which he was secretary; served on the medical committee of the League of Nations, which group investigated living and working conditions in Europe; instrumental in 1939 in bringing Blue Cross hospitalization service to his city, serving as its first president, as a director and member of the executive committee, and in recent years as treasurer; for many years director of employees' service at Cincinnati Milling Machine Company; past president of the MacDowell Society and the Literary Club; served on the staff of the Christ Hospital, where he died Feb. 28, aged 79, of bilateral pneumonia.

Miller, Albert, Rochester, Minn.; born in Posey County, Ind., Oct. 15, 1867; Marion-Sims College of Medicine, St. Louis, 1900; specialist certified by the American Board of Radiology; entered the Mayo Clinic as assistant in roentgenology in January, 1913; left the Mayo Clinic in April, 1918, to return to private practice in East St. Louis, Ill.; in April, 1921, returned to Rochester as a consultant in the section of roentgenology of the Mayo Clinic, and in 1923 was named an instructor in radiology in the Mayo Foundation, Graduate School, University of Minnesota; became a senior consultant in the Mayo Clinic in January, 1941, and retired from the staff in January, 1944; member of the Alumni Association of the Mayo Foundation and Beta Theta Pi; joint author with Dr. Russell D. Carman of the textbook "The Roentgen Diagnosis of Diseases of the Alimentary Tract," published in 1917; died in the Rochester Methodist Hospital Feb. 7, aged 86, of pulmonary embolus.

Butler, Ralph ✦ Philadelphia; born July 24, 1873; University of Pennsylvania Department of Medicine, Philadelphia, 1900; at one time assistant professor of otology at his alma mater, and professor of diseases of the throat and nose at Philadelphia Polyclinic and College for Graduates in Medicine; emeritus professor of laryngology at the Medico-Chirurgical College, Graduate School of Medicine, University of Pennsylvania; specialist certified by the American Board of Otolaryngology; member of the American Laryngological Association, American Laryngological, Rhinological and Otological Society, and the American Otological Society; fellow of the American College of Surgeons; consultant at Lankenau Hospital, Children's Hospital of the Mary J. Drexel Home, and the Woman's Hospital; died March 3, aged 80, of coronary thrombosis.

Truby, Albert Ernest ✦ Brig. General, U. S. Army, retired, San Francisco; born July 18, 1871; University of Pennsylvania Department of Medicine, Philadelphia, 1897; entered the regular Army in 1898; veteran of the Spanish-American War; rose to the rank of colonel during World War I; served two tours of duty as commandant of Letterman Army Hospital, as second corps area surgeon on Governors Island, N. Y., and as chief surgeon of the medical air corps; assistant in the office of the Surgeon General; served in the Philippines, Panama, and elsewhere; retired July 31, 1935; member of the House of Delegates of the American Medical Association in 1923; fellow of the American College of Surgeons; died March 3, aged 82, of myocardial infarction and cerebrovascular accident.

Zemp, Ernest Russell ✦ Knoxville, Tenn.; College of Physicians and Surgeons, Baltimore, 1894; for many years speaker of the house of delegates of the Tennessee State Medical Association, of which he was past president and trustee; past president of the Tennessee Valley Medical Association, Knoxville Academy of Medicine, and the Knox County Medical Society; at one time on the faculty of Lincoln Memorial University Medical Department; affiliated with Baptist Hospital and the Fort Sanders Hospital, where he died Feb. 7, aged 82, of acute myocardial infarction.

Adams, Hicks Lowis, Washta, Iowa; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1903; member of the school board; school and town health officer; affiliated with Sioux Valley Hospital in Cherokee; died Feb. 4, aged 75, of a heart attack.

✦ Indicates Member of the American Medical Association.

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Albert, Louis Noe ✦ Van Buren, Maine; M.B., 1895, and M.D., 1897, School of Medicine and Surgery of Montreal, Faculty of Medicine of the University of Laval at Montreal; at one time member of the local board of health; formerly associated with the U. S. Public Health Service; served on the staff of the Hotel Dieu Hospital; died Jan. 14, aged 84, of cardiorenal insufficiency.

Alford, Neil ✦ Jacksonville, Fla.; University of Nashville (Tenn.) Medical Department, 1907; died Jan. 17, aged 75, of cerebral hemorrhage.

Alloway, J. Lionel, Tucson, Ariz.; Johns Hopkins University School of Medicine, Baltimore, 1926; certified by the National Board of Medical Examiners; at one time on the faculty of Cornell University Medical College, and member of the staff of the Rockefeller Institute for Medical Research in New York; later became a member of the staff of Peiping Union Medical College in Peiping, China; died Feb. 7, aged 54, of carcinoma of the right mastoid.

Baker, Maurice Edward ✦ Camden, N. J.; Jefferson Medical College of Philadelphia, 1921; died in the Cooper Hospital Feb. 19, aged 60, of coronary thrombosis.

Bartle, Henry John ✦ Philadelphia; University of Pennsylvania Department of Medicine, Philadelphia, 1905; specialist certified by the American Board of Internal Medicine; member of the American Gastro-Enterological Association; on the staff of the Jefferson Hospital; died in Parsippany, N. J., Feb. 17, aged 71, of cerebral thrombosis.

Bedford, Richard James, Oneida, Ill.; Rush Medical College, Chicago, 1897; served during World War I; died in the Veterans Administration Hospital, Omaha, Dec. 19, aged 83, of bronchopneumonia and arteriosclerosis.

Bennett, Commodore Edward ✦ Kirkwood, Mo.; St. Louis College of Physicians and Surgeons, 1917; served during World War I; died Nov. 5, aged 60, of injuries received in an automobile accident.

Carney, Earl M. ✦ Seattle; the Hahnemann Medical College and Hospital, Chicago, 1908; formerly staff physician for the King County Welfare Department; died in St. Petersburg, Fla., Feb. 18, aged 81, of carcinoma of the head of the pancreas.

Coffman, Milton Buell ✦ Richmond, Va.; the Hahnemann Medical College and Hospital, Chicago, 1906; served overseas during World War I and was awarded a British Military Cross; affiliated with Retreat for the Sick; died Feb. 6, aged 71, of coronary thrombosis.

Cotler, Samuel ✦ New York City; New York Homeopathic Medical College and Flower Hospital, New York, 1931; served during World War II; died Jan. 16, aged 47.

Cowper, Harold William ✦ Buffalo; University of Buffalo School of Medicine, 1897; member of the American Academy of Ophthalmology and Otolaryngology; fellow of the American College of Surgeons; formerly on the faculty of his alma mater; served on the staffs of the Buffalo General and Millard Fillmore hospitals; died Feb. 6, aged 77.

Daley, Jacob ✦ New York City; Fordham University School of Medicine, New York, 1920; member of the American Academy of Ophthalmology and Otolaryngology; specialist certified by the American Board of Otolaryngology; one of the founders, past president, formerly secretary and vice-president of the American Otorhinologic Society for the Advancement of Plastic and Reconstructive Surgery, Inc.; affiliated with French Hospital; died Feb. 17, aged 57, of coronary infarction.

Dench, Edward Hazlitt ✦ Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1921; on the associate staff of Abington (Pa.) Memorial Hospital, Hospital of the Woman's Medical College of Pennsylvania, and the Woman's Hospital; died Feb. 20, aged 57, of injuries received in an automobile accident.

Dunn, Joseph Erman ✦ Arnold, Neb.; John A. Creighton Medical College, Omaha, 1912; past president of the Custer County Medical Society; member of the city council; died in Long Beach, Calif., Feb. 5, aged 64, of abdominal aortic aneurysm.

Eagleson, Robert M. ✦ New Castle, Pa.; Western Pennsylvania Medical College, Pittsburgh, 1897; died Dec. 16, aged 83, of arteriosclerosis.

Easley, Philip Samuel ✦ St. Louis; North Carolina Medical College, Charlotte, 1907; Jefferson Medical College of Philadelphia, 1908; for many years affiliated with the Veterans Administration; served on the staff of the Veterans Administration Hospital, Jefferson Barracks, where he died Feb. 27, aged 70, of cerebral thrombosis.

Eggers, Edward L., St. Louis (licensed in Missouri in 1900); died Dec. 25, aged 85.

Erdhaus, Frank J., Cincinnati; Cincinnati College of Medicine and Surgery, 1898; died in Elmhurst, Ill., Feb. 14, aged 83.

Floyd, Albion Elliot ✦ New Sharon, Maine; College of Physicians and Surgeons, Baltimore, 1906; died in Farmington Dec. 1, aged 75, of cerebral hemorrhage.

Foust, Jasper Cedar, Greenville, N. C.; Meharry Medical College, Nashville, Tenn., 1932; died Jan. 29, aged 53.

Fowler, Charles Clement ✦ Lovilia, Iowa; Missouri Medical College, St. Louis, 1891; at one time practiced in St. Louis, where he was associated with the board of health; died in Des Moines, Iowa, Jan. 28, aged 85, of cerebral vascular accident.

Golden, Louis Michael ✦ Philadelphia; Medico-Chirurgical College of Philadelphia, 1909; on the selective service boards during World Wars I and II and on the Veterans Employment Committee; during World War II on the local board of the Office of Price Administration; for many years on the staff of the Presbyterian Hospital; died Feb. 28, aged 67, of intestinal obstruction.

Haerle, Edward Jacob ✦ Minneapolis, Kan.; Kansas City (Mo.) Hahnemann Medical College, 1912; served during World War I; for many years county health officer; died in Kansas City, Mo., Dec. 29, aged 65, of coronary occlusion.

Hastings, Frank R. ✦ Barton, Vt.; Queen's University Faculty of Medicine, Kingston, Ontario, Canada, 1900; died Feb. 9, aged 81, of valvular heart disease and uremia.

Inch, Florence Allen, East Lansing, Mich.; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1899; died in Ypsilanti Feb. 6, aged 77, of heart failure.

Irvine, George Burgess ✦ Tempe, Ariz.; University of Illinois College of Medicine, Chicago, 1920; health officer; affiliated with Southside District Hospital in Mesa, St. Joseph's and Good Samaritan hospitals in Phoenix; died Jan. 30, aged 59, of cerebrovascular hemorrhage.

Kaye, Morris Joseph ✦ Indianapolis; Harvey Medical College, Chicago, 1901; member of the Illinois State Medical Society; while practicing in Waukegan, Ill., served as president of the Lake County Medical Society, as city health officer, board member of the Waukegan Township High School, and on the staff of the Victory Memorial Hospital; died Feb. 3, aged 80.

La Reau, Hector George ✦ Chicago; Marquette University School of Medicine, Milwaukee, 1913; specialist certified by the American Board of Otolaryngology; member of the American Academy of Ophthalmology and Otolaryngology; served during World War I; affiliated with Martha Washington Hospital, where he died March 4, aged 71, of arteriosclerotic heart disease and arteriosclerosis.

Lasche, Percival Guardian, Palo Alto, Calif.; Wisconsin College of Physicians and Surgeons, Milwaukee, 1901; fellow of the American College of Physicians; for many years affiliated with the Veterans Administration Hospital; died in the Palo Alto Hospital Feb. 19, aged 79.

Longaker, Horace George, Newport News, Va.; Jefferson Medical College of Philadelphia, 1915; fellow of the American College of Surgeons; for many years chief surgeon, Newport News Shipbuilding and Dry Dock Company; affiliated with Riverside Hospital; died in Virginia Beach Feb. 7, aged 61, of cerebral hemorrhage.

Love, James Henry ✦ Verona, Pa.; Western Pennsylvania Medical College, Pittsburgh, 1901; died Feb. 16, aged 84, of cerebral thrombosis.

Mark, Louis ✦ Columbus, Ohio; Marquette University School of Medicine, Milwaukee, 1915; member of the American College of Chest Physicians, serving as president 1950-1951; fellow of the American College of Physicians; chief, chest department, White Cross Hospital; medical director, Rocky Glen Sanatorium in McConnelsville; died in the University Hospital Feb. 25, aged 61, of cancer.

Mater, Roy Vinton ✦ Knoxville, Iowa; State University of Iowa College of Medicine, Iowa City, 1910; part owner of the Collins Memorial Hospital; died Feb. 8, aged 67.

Moore, Henry McIntosh, Thomasville, Ga.; Atlanta Medical College, 1915; affiliated with John D. Archbold Memorial Hospital; director of the Commercial Bank; died Dec. 29, aged 66, of heart failure.

Orrell, Edward Pharcellus Jr., Brooklyn; Long Island College Hospital, Brooklyn, 1889; also a lawyer; died in Methodist Hospital Feb. 21, aged 85, of metastatic carcinoma of the stomach.

Palmer, William Hailes ✦ Cranston, R. I.; Cornell University Medical College, New York, 1903; served on the staffs of Rhode Island and St. Joseph hospitals in Providence; died in Providence Feb. 13, aged 71, of arteriosclerotic heart disease.

Parker, Julius Augustus, Gainesville, Fla.; Meharry Medical College, Nashville, Tenn., 1902; died in the Alachua General Hospital Jan. 7, aged 76, of cerebral hemorrhage and hypertension.

Perry, John Oliver, Toledo, Ohio; Eclectic Medical College, Cincinnati, 1921; died Jan. 1, aged 72.

Reed, William Henry, Opheim, Mont.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1905; served as deputy county physician; died in Glasgow Jan. 28, aged 76, of coronary disease.

Reese, William Joe, Albany, Ga.; Meharry Medical College, Nashville, Tenn., 1909; died Dec. 7, aged 70, of arteriosclerotic heart disease.

Reynolds, Elda Mare, Union Star, Mo.; Marion-Sims College of Medicine, St. Louis, 1901; served on the school board; president of the Farmers State and Peoples Bank of Union Star; died in the Missouri Methodist Hospital, St. Joseph, Jan. 13, aged 77.

Roman, John Lewis, Batesville, Ohio; Ohio Medical University, Columbus, 1906; affiliated with St. Francis Hospital in Cambridge; died Jan. 28, aged 74, of coronary thrombosis.

Roque de Escobar, Raul ✦ Tampa, Fla.; University of Tennessee College of Medicine, Memphis, 1932; was shot and killed March 7, aged 48.

Rosenthal, Isidor ✦ South Norwalk, Conn.; Long Island College Hospital, Brooklyn, 1910; died in Mount Sinai Hospital, New York, Feb. 10, aged 65, of brain tumor.

Sangston, David Hibbs ✦ Uniontown, Pa.; Western Pennsylvania Medical College, Pittsburgh, 1897; on the courtesy staff, Uniontown Hospital, where he died Jan. 7, aged 79, of coronary heart disease.

Schatz, Louis Bernard ✦ Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1924; on the staff of the Albert Einstein Medical Center, where he died Feb. 7, aged 55, of embolism.

Schoen, William P. ✦ Chicago; Rush Medical College, Chicago, 1895; member of the health department staff for many years; served on the staff of St. Francis Hospital in Evanston, Ill.; died Feb. 4, aged 84, of cerebral arteriosclerosis.

Schwarz, Otto William, Cincinnati; Eclectic Medical College, Cincinnati, 1913; formerly on the faculty of his alma mater; died in the Deaconess Hospital Jan. 4, aged 63.

Shearl, James Monroe ✦ Williamsville, Ill.; Barnes Medical College, St. Louis, 1905; died Jan. 31, aged 75, of a heart attack.

Silvis, John Steele ✦ Greensburg, Pa.; Western Pennsylvania Medical College, Pittsburgh, 1890; affiliated with Westmoreland Hospital; died Feb. 15, aged 91, of arteriosclerosis.

Tappan, Paul Whiting, Dayton, Ohio; Miami Medical College, Cincinnati, 1902; on the courtesy staff, Miami Valley Hospital, where he died Feb. 21, aged 76, of cerebral thrombosis.

Taylor, Robert Shaw, Buffalo; University of Buffalo School of Medicine, 1904; served during World War I; for many years assistant superintendent of the J. N. Adam Memorial Hospital in Perrysburg, N. Y.; died in the Buffalo General Hospital Jan. 3, aged 73, of pulmonary edema and heart failure.

Timmons, Carl Conrad, Augusta, Ga.; University of Georgia Medical Department, 1915; died in the University Hospital Nov. 9, aged 64, of heart failure.

Truba, Roy Karl, Detroit; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1909; died Dec. 4, aged 68, of carcinoma of the esophagus.

Vance, John Robert, Orlando, Fla.; Hahnemann Medical College and Hospital of Philadelphia, 1953; intern, Orange Memorial Hospital; died in Wewahotee Jan. 31, aged 28, in an airplane crash.

Van Stone, Leonard Mathews ✦ Denver; Harvard Medical School, Boston, 1915; member of the American Trudeau Society; served in France with the Harvard medical unit during World War I; died in St. Joseph's Hospital Dec. 26, aged 66, of acute intestinal obstruction.

Verrei, Scott P., Philadelphia; Temple University School of Medicine, Philadelphia, 1926; served during World War II; secretary of the Temple Medical Alumni Association; died in the Temple University Hospital Jan. 1, aged 55, of acute coronary thrombosis.

Vinson, John Ellsworth ✦ Seaside, Ore.; University of Oregon Medical School, Portland, 1929; died in the Portland (Ore.) Sanitarium and Hospital Jan. 12, aged 52, of cardiorenal disease.

Wait, Will Curd ✦ McAlester, Okla.; Hospital College of Medicine, Louisville, 1906; at one time medical superintendent of the Western Oklahoma Tuberculosis Sanatorium; died Jan. 19, aged 72, of coronary thrombosis.

Wallace, A. D. ✦ Plantersville, Ala.; Memphis (Tenn.) Hospital Medical College, 1907; died in Dallas Dec. 6, aged 76, of ruptured abdominal aneurysm.

Waller, Leroy T., Commerce, Texas; Louisville (Ky.) Medical College, 1906; city health officer; died Dec. 16, aged 79, of a heart attack.

Walsh, James Raymond ✦ Winchester, N. H.; University of Pittsburgh School of Medicine, 1928; served during World War II; died in Keene Dec. 26, aged 51, of cirrhosis of the liver, acute pancreatitis, acute nephritis, and arteriosclerosis.

Walther, Rudolph Albert ✦ Pittsburgh; Hahnemann Medical College and Hospital of Philadelphia, 1917; on the staff of the Shadyside Hospital, where he died Feb. 21, aged 65.

Woodward, Henry Thomas, San Diego, Calif.; University of Pennsylvania Department of Medicine, Philadelphia, 1898; died in Quintard Hospital Dec. 28, aged 80, of carcinoma of the prostate gland.

Yeomans, Una Ritch ✦ Jesup, Ga.; University of Georgia School of Medicine, Augusta, 1940; interned at the Illinois Masonic Hospital in Chicago; served a residency in pediatrics at the Gallinger Municipal Hospital in Washington, D. C.; died Jan. 10, aged 38, of carcinoma of the right breast with metastases to lungs and liver.

Young, Glenn Ross, Detroit; Detroit College of Medicine and Surgery, 1915; died in Highland Park, Mich., Dec. 31, aged 61, of myocardial insufficiency.

Ziegler, John Hartman ✦ Farmer City, Ill.; St. Louis College of Physicians and Surgeons, 1905; for many years on the staff of the Brokaw Hospital in Normal; physician for the Illinois Central Railroad; died in Normal Jan. 21, aged 72, of cancer.

Zilvitis, Paul Michael, Chicago; Chicago College of Medicine and Surgery, 1916; died in the Mother Cabrini Hospital Feb. 22, aged 67, of hypostatic pneumonia, cerebral vascular accident and hypertension.

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GOVERNMENT SERVICES

ARMY

Symposium for Combined Armed Forces.—An armed forces medico-military symposium will be presented at Fitzsimons Army Hospital, Denver, May 3-5, for the three armed services. Reserve officers of the Army, Navy, and Air Force, not on active duty, are invited to attend, including members of the Nurse Corps, Women's Medical Specialist Corps, Medical, Dental, and Veterinary Corps, and Medical Service Corps. The theme of the program is to be "Advances in Medicine Resulting from Experience in Korea." It is designed to present valuable information to the reserve medical service officers of all branches of the three armed forces. Exhibits by the Army, Navy, and Air Force on recent advances in military medicine will be on display. It is expected that reserve officers not on active duty will receive retirement credits for attending this symposium. The uniform or civilian dress will be optional for reservists. The 9th naval district and 10th Air Force have indicated that airlift may be provided. Interested persons should contact the surgeons of the aforementioned headquarters.

Legion of Merit.—At a ceremony in the Surgeon General's office Col. Carlton D. Goodiel, M. C., received the Legion of Merit for exceptionally meritorious conduct in the performance of outstanding service as Commanding Officer, Army Hospital, 8079th Unit, in Japan, from Dec. 15, 1951, to Nov. 30, 1953. The citation accompanying the decoration states: ". . . his resourcefulness, correlation of all phases of medical service, and consistently outstanding performance of his duties inspired the respect and emulation of his associates and resulted in the highest quality of medical service in support of the United Nations' campaign in Korea. His exemplary achievements contributed significantly to the amelioration of suffering and the saving of lives. . . ." Presentation of the decoration was made by Major Gen. George E. Armstrong, Surgeon General, and witnessed by Mrs. Goodiel and members of the Surgeon General's staff.

Personal.—Retirement orders for Col. Prentice L. Moore, Deputy Commander of Brooke Army Hospital, Fort Sam Houston, Texas, were read at a ceremonial retreat parade at Brooke Army Medical Center on Feb. 26. Colonel Moore accepted a commission in the Army Medical Corps in 1924. He plans a long vacation and then will reside in San Antonio.

NAVY

Institute for Hospital Administrators.—The Eighth Interagency Institute for Federal Hospital Administrators and Executives will be held April 20 to May 7 at the National Naval Medical Center, Bethesda, Md. The institute, under the auspices of the Interagency Committee on Training and Education of Federal Hospital Administrative Personnel, is an advanced postgraduate course of instruction.

Capt. Everett H. Dickinson, M. C., U. S. N., has been appointed director of the institute. The speakers, many nationally known authorities in their respective fields, have been selected from all branches of the government service and from their civilian pursuits. Student participants in the institute, all active duty officers or government employees, will include 6 each from the Army, Navy, and Air Force; 12 from the Veterans Administration; 3 from the Public Health Service; and 3 from the Bureau of Indian Affairs.

Personal.—Rear Adm. Charles F. Behrens, M. C., U. S. N., on Feb. 22 addressed the tri-state medical meeting at Charleston, S. C., on "Atomics and Modern Medicine."

AIR FORCE

Squadron Surgeons Graduate.—A class of 63 medical officers recently graduated from the course for squadron surgeons at the Air Force School of Aviation Medicine, Randolph Field, Texas. The chief speaker at the ceremonies was Col. Edgar L. Olson, former surgeon of the Fifth Air Force, who has been appointed chief of clinical medicine at the school. Colonel Olson said that the squadron surgeon is one of the most important members of the Air Force team and he constantly strives to make the fliers realize the deadly consequences of carelessness in the use of oxygen masks, immersion suits, shoulder harness, and other survival aids. Most of all a successful squadron surgeon is interested in the fliers themselves. He lives with them, is easy to approach, patient, and understanding, in other words, is a good general practitioner. Colonel Olson was introduced by the commandant of the school, Brig. Gen. Edward J. Kendricks, and the diplomas were awarded by Major Gen. Dean C. Strother, deputy commander of the air university, which is responsible for all educational activities of the Air Force.

Among the graduates were 14 medical officers of other nations who received U. S. A. F. flight surgeons' wings. Of the 49 U. S. A. F. surgeons graduated, 5 have been ordered to squadrons in the Far East, 2 in Europe, and 1 in the Near East. The remainder will go to Air Force medical units in the United States for the present.

PUBLIC HEALTH SERVICE

Grants for Research on Treatment of Cancer.—The search for chemical agents effective in the treatment of cancer is being given new support through grants-in-aid to scientists for research projects, it was announced Feb. 9 by Surgeon General Scheele.

The grants are administered by the National Cancer Institute. Dr. Scheele approved the following eight grants, totaling $704,563, for studies in chemotherapy of leukemia and allied forms of cancer: Dr. Sidney Farber, Children's Cancer Research Foundation, Boston, "Chemotherapy of Cancer," $50,000, and "Chemotherapy of Leukemia and Related Disorders," $150,000; Dr. Alfred Gellhorn, Columbia University College of Physicians and Surgeons, New York, "Clinical and Laboratory Investigation in Cancer Chemotherapy," $141,255; Dr. Ralph Jones, University of Pennsylvania, Philadelphia, "Chemotherapy of Leukemia and Allied Diseases," $85,800; Dr. C. P. Rhoads, Sloan-Kettering Institute for Cancer Research, New York, "Expansion of Cancer Chemotherapy with Special Reference to Lymphomas and Leukemia," $200,000; Dr. Byron E. Hall, Stanford University, Palo Alto, Calif., "Studies on the Clinical, Cytologic, and Metabolic Effects of 6-Mercaptopurine and Other Chemotherapeutic Agents in Human Neoplasia," $17,460; Dr. Thomas F. Dougherty, University of Utah, Salt Lake City, "Influence of Adrenocortical Hormones on Leukemogenesis," $18,036; and Dr. Maxwell M. Wintrobe, University of Utah, "Factors and Mechanisms Concerned in Hemopoiesis," $42,012. Additional applications for grants are under consideration.

Applications for research grants-in-aid are recommended to the Surgeon General for approval by the National Advisory Cancer Council, consisting of six professional and six lay members appointed from outside the government. They are first passed on by study sections consisting of scientists qualified in the different fields of investigation. In connection with this strengthened research on cancer through chemotherapy, the Surgeon General said that a committee of cancer chemotherapy investigations will be set up. This group will seek to integrate research through prompt interchange of information among investigators in this field.

FOREIGN LETTERS

DENMARK

Thread Worm and Whip Worm Infestation.—Dr. M. S. Norn has published several articles on the diagnosis and incidence of Oxyuris and Trichuris dispar infestation in Denmark. In 1937, M. C. Hall reported, in the *American Journal of Tropical Medicine*, a description of his diagnostic anal swab method using adhesive Cellophane, and in 1943 this method was introduced into Denmark. Since then it has been widely used. Norn has modified this method by introducing a drop of immersion oil on to a slide before covering it with a sheet of adhesive Cellophane previously swabbed round the anus. By using this modified method on 226 adults and children, he showed that the number of persons infested with Oxyuris was twice as great as the number detected with the Hall method. Even so, an investigation of 609 persons showed that a single swab examined by the immersion oil method revealed oxyuriasis in only 58% of those who were infested. Only after four or five swabs are examined can this method be relied on to exclude this condition. Norn has followed the behavior of his own thread worms daily for more than a year and has obtained negative results for as long as 70 consecutive days. When he classified the 609 persons examined for oxyuriasis according to their age, he found that the infestation rate was highest at the school age (70 to 88%), while it was much lower both before and after this age. Only one case was found among 72 infants, and in adults the infestation rate was 10 to 31%, the oldest patient being 78 years old. The proportion of those infested who had symptoms was not greater in the oxyuriasis group than in the controls. Norn's study of T. dispar shows that among 252 persons selected at random, 21.4% harbored this parasite. It was commonest among women in rural areas. There were no serious symptoms to be traced to this worm, but pruritus ani existed in 23% of the hosts and only in 8% of the noninfested controls.

Influence of Heredity on Gastric Cancer.—With a population of only 4 million, Denmark loses between 1,500 and 1,600 of its inhabitants from gastric cancer every year. Drs. A. Videbaek and J. Mosbech have examined hospital records to find out whether heredity influences the incidence of gastric cancer. Their investigations, given financial support by the U. S. Public Health Service, have convinced them of the inestimable value of hospital case records kept in such a way that they are available for research workers. They started from 302 definitely established cases of gastric cancer and inquired into the occurrence of cancer and pernicious anemia in 3,294 of their relatives. Serving as controls were 390 symptom-free persons of about the same age. Inquiries were made of 4,782 relatives of these controls. Pernicious anemia was included in this investigation because the incidence of gastric cancer in patients suffering from this disease has been found to be three times as great as for other persons. The authors reported their findings in *Ugeskrift for laeger* for Jan. 28, 1954. They found that the incidence of gastric cancer was four times greater among the relatives of patients with gastric cancer than in those of the controls, but that the incidence of cancer elsewhere in the body was about the same for the two groups. In the relatives of the patient group, 41% of all the cancers involved the stomach, but, in the control group, the corresponding figure was only 17%. Among the relatives of patients with gastric cancer, the incidence of this disease was 29% for men and 21% for women, but the corresponding figures for the control group were only 7% and 5%, respectively.

Accidents in the Home.—At a recent meeting of the Copenhagen Medical Society, Dr. Esther Amundsen gave an account of an investigation she had undertaken of the number and character of the accidents that occurred in the homes in Copenhagen between Feb. 1 and Aug. 1, 1952. Her material was provided by first aid stations and general practitioners. This type of accident had hitherto received little attention in Denmark. In the period under review, the first aid stations dealt with about 30,000 accidents. Of these traffic accidents accounted for about 10,000, and accidents at the place of work for between 10,000 and 11,000. Nearly 5,000 occurred in the home, and a smaller number in schools or elsewhere. The mortality rate for home accidents was 0.8%, whereas it was nil for those occurring in schools and only 0.18% for those occurring at the place of work. Females were more liable than males to have burns and machine injuries at home, and fractures were twice as common among females as among males. Gas from cooking stoves was responsible for the comparatively high mortality rate for accidents in the home, and 14 of the 21 persons killed by this means were more than 65 years old. The accident rate was highest in the age group 1 to 5 years. Only 14 accidents were caused by electricity. This small figure may well be a tribute to the strictness with which precautions against faulty electrical fittings are enforced. On the other hand, there were about 100 accidents to adults or children caused by toys.

Postgraduate Training.—Reporting on the postgraduate training lectures for general practitioners at the annual meeting of the Danish Medical Association, Dr. Möller Nielsen said that the lectures had been so successful that about 75% of all the general practitioners in the country had attended them. He deplored the abstention of specialists from these postgraduate lectures. If general practitioners can benefit from coming to lectures in hospitals, may not a reversal of the stream, with hospital doctors going to general practitioners, also be beneficial? The Danish Medical Association has recently decided to test the implications of this question. Ten hospital doctors who have served their turn as hospital interns are to receive financial aid for a month during which they will work with general practitioners as their assistants. Both parties to this arrangement are expected to write a report on its working. If these reports prove encouraging, the Danish Medical Association may expand its new system to the benefit of all concerned. It has been suggested by Dr. V. A. Fenger that general practitioners and hospital doctors should arrange with each other for an exchange of duties for a day or so every month or oftener so that they can better appreciate each other's problems.

ENGLAND

Nuffield and the Elderly.—In 1947, the Nuffield Foundation formed the National Corporation for the Care of Old People "to investigate the many problems connected with old age and to make grants to voluntary organizations to enable them to test out ways of improving the situation." Since its inception it has interested itself in three main approaches to the problem: communal homes for old persons, homes for the infirm aged (or rest homes), and nonresidential clubs for the elderly. In their annual report for 1953, which has just been published, the governors of the corporation announce a change of policy. In future they will concentrate on giving grants to voluntary bodies that are prepared to assist old persons to remain in their own homes. The view is expressed that there is "a need for voluntary committees to turn their attention from the provision of Homes to the provision of domiciliary services as a means of enabling old people to remain in their own homes. . . . This is a field in which voluntary agencies can do most useful pioneering work and . . . the task of providing new communal Homes is now one for the local authorities save in exceptional circumstances. Quite apart from the fact that thereby old people can retain their independence and remain an integral part of the community, it may well be a cheaper method of providing for them than to build or convert properties for use as communal Homes." Another interesting point of policy is the importance attached by the corporation to what is described as homes for the infirm aged, or rest

The items in these letters are contributed by regular correspondents in the various foreign countries.

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homes. The borderline between health and sickness is very flexible in old age, and there are administrative complications also, as the regional hospital board is responsible for the aged in sickness, but they are the responsibility of the local authority when they are well. In practice, no one is responsible for these borderline cases, and the corporation urges that there be intermediate rest homes between hospitals and the homes provided by local authorities and that these rest homes should admit patients who have received treatment in the geriatric unit of a hospital. They should not be provided in isolation but should be run in conjunction with established geriatric units of hospitals and with financial help, in respect of the cost of maintenance, from the regional hospital boards and the local authorities, each paying for those residents for whom they would normally be responsible. They also state: "The Governors of the Corporation, though not wishing to detract from the excellent work which is done in these units, consider that it would be wrong—even dangerous—to believe that by attaching the label 'geriatric unit' all troubles are necessarily at an end. . . . A serious effort should be made to discover whether a geriatric unit benefits all the old people in the area and whether the methods of selection of patients for admission could not be improved. The difficulties of many sick old people living alone are still great and if a hospital bed is obtained even in a geriatric unit it is often only after a prolonged wait."

Poliomyelitis in Children's Wards.—According to Dr. H. S. Banks, medical superintendent of one of the largest infectious diseases hospitals in London, "(1) It can no longer be considered safe to retain a case of acute poliomyelitis in an open general ward containing infants and young children; (2) during the poliomyelitis season every effort should be made to avoid irritating injections, especially in infants and young children in open wards" (*Lancet* 1:464, 1954). The first of these recommendations is based on his experience last year when, of the 55 patients with paralytic poliomyelitis and 26 with nonparalytic poliomyelitis admitted to his hospital, 12 of the former and one of the latter were infected in the children's wards of various hospitals and in a nursery in the district. Eleven of these patients were 6 years old or less, one was 16 (a student nurse), and one was 22 (a housemother in the residential nursery).

The second recommendation is based on Dr. Banks' finding that 6 of the 10 paralyzed children in this series had had a course of penicillin injections in the buttocks or thighs, ending within a few days of the onset of the poliomyelitis. In five of these the paralysis was localized exclusively to both lower limbs and in the other to one lower limb. The other four paralyzed children had not had penicillin injections, and none had paralysis of the legs. In addition, most of these six children with paralysis of the lower limb had large indurations in the quadriceps muscles, presumably at the site of the penicillin injections, and some of these indurations remained palpable for many weeks. He comments: "Penicillin injections may leave indurations if complicated by mild sepsis, or if given in very highly concentrated form or with a vehicle such as procaine or oil or aluminum monostearate. In a hospital ward, dry-sterilized syringes should be used more often in order to eliminate the risk of sepsis; and alternative treatment to intramuscular penicillin for acute infections should be considered where circumstances may favour poliomyelitis infection. Sulphonamides will sometimes be sufficient or oral penicillin or another antibiotic, although more expensive, may be justified."

Domiciliary Treatment of Sick Children.—An interesting, and successful, experiment in child health services is reported by Dr. J. A. Gillet (*Practitioner* 172:281, 1954). In 1948, the health authorities of Rotherham were worried because of the high mortality rate in the local hospitals, much of which was due to gastroenteritis or bronchopneumonia and was attributed to cross infection taking place in hospitals. They, therefore, introduced a sick children's unit as part of the Home Nursing Service and placed this at the disposal of the local general practitioners in cases in which it was considered possible to treat a sick child at home. The unit is staffed by two specially trained nurses and is supplied with all the equipment necessary for nursing children, including infants' clothes, cots, gowns, masks, basins, trays, and the like. The Home Nursing superintendent is notified of a case by the general practitioner, and the home is visited by one of the special nurses who decides what equipment is needed. She then visits the home as often as necessary to carry out the treatment ordered by the family physician and to keep an eye on the child's condition. She is in frequent consultation with the child's physician who is informed immediately if there is any unfavorable change in the child's condition or if the response to treatment is not satisfactory. In 1953, 561 sick children under the age of 15 years were nursed under the scheme, and among these there were only two deaths. The success of the scheme is further exemplified by the fact that in 1948 the infant mortality rate in Rotherham was 70, with 31 deaths from enteritis, whereas in 1953 the corresponding rate was only 31, and there was only one death from enteritis. In addition, as is pointed out in an accompanying editorial note, the scheme reduces the number of admissions to hospitals, prevents that psychological injury that, according to modern pediatricians, admission to hospital inflicts on a child, and helps to restore the general practitioner to his rightful status as the family physician who can personally tend his patients through all but the most serious illness.

FINLAND

Cortisone for Tuberculous Meningitis.—Since April, 1953, cortisone has been given routinely for tuberculous meningitis in combination with streptomycin, *p*-aminosalicylic acid (PAS), and isoniazid at the University Children's Hospital in Helsingfors. Because cortisone appears to have stirred latent tuberculosis into activity in several patients, it may seem paradoxically courageous to prescribe cortisone for tuberculous meningitis, and Dr. Ole Wasz-Höckert, who is attached to this hospital, refers to the tentative character of this course in a report in *Nordisk medicin* for Jan. 14, 1954. His inspiration came from three articles published in 1952 and 1953 in the *South African Medical Journal* by Barnard. Since April, 1953, Dr. Wasz-Höckert treated 15 patients with tuberculous meningitis with cortisone as well as with streptomycin, *p*-aminosalicylic acid, and isoniazid. The two patients who died had been admitted to the hospital late in the course of the disease. The dosage of cortisone given orally was 25 to 100 mg. daily divided in four doses. This dosage was gradually reduced to 10 to 50 mg. daily, and very small doses were being given when this treatment was discontinued after two to six weeks. Hydrocortisone was given by intralumbar, suboccipital, or intraventricular injection, the initial dose being 12.5 to 20 mg. and later doses being 2.5 to 10 mg. Side-effects such as Cushing's syndrome were not observed, nor was there any noticeable disturbance of the electrolyte balance. According to the rather speculative explanation of the alleged beneficial effects of cortisone and hydrocortisone in patients with tuberculous meningitis, the former stimulates the organism to an increased capacity for reaction, while hydrocortisone has a local effect when introduced directly into the cerebrospinal canal where it inhibits the often fatal formation of a fibrinous effusion that may entail obstruction and the development of hydrocephalus.

Heparin for Ocular Diseases.—At the University Eye Hospital in Helsingfors, Dr. Salme Vannas has been investigating the use of heparin in the treatment of diseases of the eyes. In experimental iritis, he found heparin effective in preventing clotting in the anterior chamber of the eye and in prolonging the rate of coagulation in both the aqueous humor and the blood. For more than two years, he has used heparin in an ointment or in drops in patients with iritis. He has performed heparin tolerance tests in 60 patients in the hope of finding the cause of the inflammatory diseases of the eyes. In these tests, he gives 0.5 mg. of heparin per kilogram of body weight, determining the coagulation time according to the Lee-White method before and 10 minutes after the injection. With young or middle-aged healthy persons serving as controls, he succeeded in prolonging the coagulation time by 12 or 13 minutes. By such heparin tests he hopes to be able to distinguish between rheumatic and tuberculous diseases of the eye. In five patients with arteriosclerotic retinopathia, he has performed heparin tolerance tests before and after treatment with heparin. In these patients, he began with 50 to 100 mg. of heparin daily for a week or two and then later gave the same dose twice a week. The detailed report on these

patients (*Nordisk medicin*, Nov. 12, 1953) suggests that, in these otherwise hopeless cases, heparin may at least do something to protect the good eye, if medication is started early enough. In the patients with arteriosclerosis, the heparin was given in small intravenous doses.

FRANCE

Action of Antibiotics and Cortisone on Coagulation.—In vol. 8, no. 3, of *Dermatology Review*, H. Tsevrenis and Mme. Karali reported a decrease in the coagulation time of the blood in a series of 50 patients after administration of different antibiotics and of cortisone. The maximal decrease occurred three to four hours after the drug was given. This has an important bearing on the administration of these drugs to patients with a predisposition to thrombosis or phlebitis. In such patients an anticoagulant should be given concurrently.

Allergy to Dental Appliances.—E. Sidi and F. Casalis studied allergy to dental appliances and observed that there is no constant correlation between the cutaneous and the buccal sensitivity to a given product and that buccal contact with an allergen is sometimes followed by a cutaneous reaction. They studied 15 patients with allergic reactions due to nonmetallic dental prostheses. Glossodynia, sometimes isolated and sometimes associated with redness of the tongue, occurred in some patients. These reactions are frequently associated with peribuccal perleche or eczema and even cutaneous lesions in distant areas. These reactions may occur years after the fitting of a dental prosthesis. By using a series of patch tests applied to the skin of the forearm and to the buccal mucosa, the authors observed the sensitivity of their patients to vulcanite or to metacrylic resin (*Journal of Maxillofacial Odontology—Stomatology*, May-June, 1953).

Death of Professor Lavastine.—Prof. L. Lavastine died in Paris at the age of 78 years. His grandfather was a physician, and his granduncle, Jaques Dariel, was the ophthalmologist who devised cataract extraction. Professor Lavastine became associate professor of medicine in 1910 and professor of medicine at the Paris Faculty of Medicine in 1931. In 1939, he became professor of mental diseases. Since 1936, he has been a member of the Academy of Medicine. Over 900 of his articles dealing with the history of medicine, psychiatry, pathology of the sympathetic nervous system, and the endocrine glands have been published. He taught psychological anthropology, psychotherapy, and social readaptation. He was founder and president of the French Society of History of Medicine and president of the International Society of History of Medicine.

ITALY

National Conventions of Medicine and Surgery.—The national conventions of the Italian societies of medicine and surgery were held in Rome in October. These correspond to the annual convention of the American Medical Association in the United States.

Diaphragmatic Hernia.—Prof. Pietro Valdoni who holds the chair of surgical pathology at the University of Rome reported on diaphragmatic hernia. He objected to the classification proposed by Ackerlund, Harrington, and Marks and made a distinction between diaphragmatic hernias in adults and old persons and those in newborn babies and children. He divided hernias in adults and old persons into hiatus hernia and hernias through congenital muscular or tendinous defects. Among the former he included the slipped hernia, the paraesophageal hernia, and the mixed hernia. Among those due to congenital muscular or tendinous defects of the diaphragm during the prenatal period, he included the hernias of the foramen of Morgagni, the foramen of Bochdalek, and the pericardiopulmonary foramen. Among the hernias in children and newborn babies, he included hiatus hernias due to a short esophagus, malformations of the heart caused by tuberculosis, and prolapse of the cardia. Among those due to congenital defects, he included hernias of the pleuroperitoneal hiatus, those through the Morgagni-Larrey foramen, and the esophageal-aortic hernias due to congenital absence of the diaphragm. He also mentioned the post-traumatic diaphragmatic laparocele or traumatic hernia and diaphragmatic eventration.

Hiatus hernias involve the digestive, circulatory, and respiratory systems, and their characteristics are pain under the epigastrium or near the xiphoid process, flatulence, a feeling of fulness or intragastric pressure, belching, nausea, and an intense burning sensation in the epigastrium. There may also be regurgitation and vomiting, and sometimes the pain radiates to the shoulder, neck, mandible, back, or arms. Often the pains recur after meals and become accentuated when the patient is recumbent or when there is an increased intra-abdominal pressure (pregnancy). Less often the symptoms resemble those of angina pectoris because of the pressure that the hernia exerts on the rami of the parasympathetic system. Melena and hematemesis may gradually lead to severe anemia. This may be secondary to esophageal ulcers caused by the regurgitation of gastric secretions. This regurgitation is caused by modification of the acute esophagus-stomach angle by the hernia. This angle normally prevents the food in the stomach from returning to the esophagus when the patient belches. According to the speaker, the hiatus hernia is commoner than it is believed to be. Sometimes it remains undiagnosed because it is asymptomatic. He believes that for every 20 persons with duodenal ulcer there are 10 with hiatus hernia. Clinical investigation has for him greater importance than radiological investigations, unless supplementary methods, such as pneumoperitoneum, are used in the difficult cases. He asserted that in surgical repair the thoracic approach should always be used because the postoperative mortality with this technique is statistically insignificant. The other types of hernia are less common in both adults and children.

Pulmonary Embolism.—Professor Giovannini, from the surgical clinic of the University of Bologna, discussed postoperative thrombophlebitis and pulmonary embolism. He said that the three factors described by Virchow are still to be considered responsible for the pathogenesis of thrombosis, namely, slackening of the blood flow, modification of coagulability, and lesions of the walls of the vessels. As for the opinion that the number of cases of postoperative thrombosis has increased, he believes that the increase is more apparent than real. He saw it in 7 or 8% of his patients. This figure is equal to that reported in the past, but it must be remembered that the relatively low percentage of thromboses in the past was due to the fact that the diagnostic signs that are used today, such as pains in the calf, unexplained changes in the pulse and temperature, thoracic pain, dysuria, and vesical tenesmus, were not taken into consideration.

The commonest initial site of postoperative and nonpostoperative peripheral venous thrombosis is in the veins of the calf, the deep veins of the leg and those of the abductor muscles, and the femoral and iliac veins. Among the conditions that predispose to thrombosis are a hereditary predisposition, a predisposition to varices, hypothyroidism, obesity, an age factor (after 40), anemia, and inflammatory processes. Thrombosis is more prevalent in winter than in summer because vascular spasm is more likely to occur as a result of adrenal stimulation caused by cold. The speaker doubted the value of digitalis, especially in patients in whom there is already impairment of the vessels. Antibiotics are beneficial, especially in patients with thrombophlebitis. Among laboratory methods, he attributes great importance to the platelet curve and the thrombogram. Prophylactically and therapeutically the anticoagulants, especially heparin, are very important, but their doses must be carefully controlled. He proposed the use of procaine intravenously and ganglioplegics in the medical treatment of pulmonary embolism and embolectomy for its surgical treatment. The mortality rate, however, for this intervention is about 90%.

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CORRESPONDENCE

THE KINSEY REPORT

To the Editor:—I am dismayed by the statement of Edmund Bergler and William Kroger concerning the Kinsey reports (*J. A. M. A.* **154**:167 [Jan. 9] 1954). To me these reveal a lack of comprehension of the facts of human biology. They assail Kinsey because he "neglects the dynamic unconscious" in presenting the substance of human sexual behavior and then go on to switch the issue from the biological study of how people behave—the expressed intent of the Kinsey reports—to a metapsychological discussion of the motivations of sexual behavior in general.

Most of us are aware that medical theory and practice are built on the knowledge that man is a vertebrate, a mammal, a primate, and of the species homo sapiens. As an organismic unit, he is integrated functionally by a central nervous system and brain that give him the powers of mentation, judgment, memory, and speech. His psychology emanates from a demonstrable anatomic structure. Its physiological responses are conditioned by, and adapt to, the variations of man's constitution, his metabolic stresses, the physical, chemical, and bacterial stresses, and above all, the cultural forces within his environment. The existence of the unconscious has yet to be demonstrated by psychoanalysis, although Freud and others have ascribed structure and function to the psyche. This arbitrary assignation of structure to the mind by schematizing it topographically (into id, ego, superego, and sundry other complexes) has furthered the Cartesian dualism of "mind" and "body." Actually, such paradoxes need not be. We have a body, and this body functions in relation to all of the ecologic forces surrounding it.

The vegetative functions of sleeping, eating, and bowel and bladder activity are conditioned differently in each household unit according to individual patterns of growth and development. Sexual activity, equally a vegetative function, depends on the physiological capacities of the person and is modified for final expression by the social, economic, educational, geographic, religious, creative, and competitive values of the surrounding milieu. Psychoanalytic formulation, however, cannot embody these biological phenomena, since its reality is measured by the apocrypha interpreted from the free associations of disturbed persons lying on a couch. Bergler and Kroger appear to substitute speculation for statistical evaluations made on validatable standards. Impugning Kinsey's findings on frigidity and homosexuality they state: "Kinsey was probably duped by many of the homosexual volunteers who used him for their own specific purposes." Surely this indicates only a cursory reading of the reports and a lamentable disregard for the methods and precision used in obtaining the material. Further, they imply that physiologists are wasting their time in research and that physicians should discard anatomicophysiological knowledge and concentrate on resolving the "dynamic interplay" in the unconscious. They correctly note that "love simply cannot be measured on an IBM machine!" but in adding that "orgasm per se means nothing" they deny a human physiological phenomenon and throw the biology of vegetative function totally out of focus.

Kinsey and his associates have made an admirable contribution to the vital statistics of how we behave sexually. They do not pass judgment on how we should behave. In honest biological terms, they have presented statistical accounts of the sexual behavior of approximately 16,000 men and women and have weighed the ecologic factors that may be responsible for variations in this behavior.

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PAIRED NIPPLES

To the Editor:—During a recent visit to Suriname and while conducting a survey on the blood groups of the Bush Negroes, we visited a Bush Negro village of about 100 people. The village was about 100 miles up the Suriname River. A young woman came into the clearing where we had been working carrying a baby boy who I found out, through my interpreter, was about 3 months of age. The woman did not know her own age, but I surmise she was in her middle 20's. I was impressed by the fact that each breast possessed symmetrically paired nipples, in very close proximity and with a common areola as shown in the photograph, which was taken by Dr. C. F. A. Bruyning. Each nipple functioned actively. Further questioning of this woman gave very little information other than this was her second child, the first one having died shortly after birth. It was impossible to obtain any information concerning any other member of her family.

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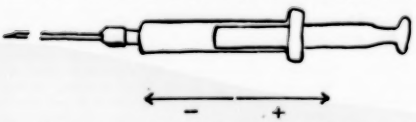
SYRINGE FOR INTRATHORACIC PRESSURE

To the Editor:—The relative intrathoracic pressure is of vital importance in establishing the diagnosis and/or the treatment in certain intrathoracic pathological conditions. For example, the distinction between a simple or tension pneumothorax following an automobile injury or in a spontaneous pneumothorax will determine whether a simple aspiration or the insertion of an indwelling catheter is called for. If the patient is in a hospital where the standard type of pneumothorax machine is available, true readings can be easily obtained. But, in the usual outpatient emergency room or even on the floors of most hospitals, such an instrument is not readily accessible; however, a very excellent substitute will always be available.

This substitute is an ordinary 2 cc. hypodermic syringe. If this simple apparatus is used in the manner to be described, very satisfactory information can be procured. The 2 cc. syringe is moistened, and the little metal clip holding the plunger is removed (so that the plunger will slide easily in the barrel) and is attached to a 16 or 18 gage needle. The plunger is pulled half-way out of the barrel and the thoracocentesis performed as usual. In a chest with negative intrathoracic pressure, the moment the pleural space is entered the plunger will be sucked into the barrel of the syringe, especially if the patient is told to hold a deep breath while the thoracocentesis is being done. In case of a tension-pneumothorax, on the other hand, the plunger

will be still further extruded; in fact it may be completely shot out of the barrel unless this contingency has been anticipated. These directions of movement are illustrated in the figure.

In case of a hydropneumothorax, if the syringe is to act as a manometer, the pleural cavity must be entered above the fluid line, either by having the patient propped up or turned on his side. In the case of a hydrothorax (empyema, pleural effusion, or hemothorax) where the needle goes into the fluid, the syringe will not act as a manometer, but a piece of tubing must be



attached to the needle to see if the fluid level in the tubing will rise above or fall below the fluid level in the chest.

If the needle is in an air-containing pleural space and the intrathoracic pressure is not too far above or below normal, the plunger of the syringe will move to and fro with respiration. If the point of the needle enters an adhesion, there will, of course, be no motion.

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MOUNTING COST OF VETERANS' CARE

To the Editor:—The minutes of the 31st meeting of the Council of Chief Consultants to the Veterans Administration, held in Washington, D. C., September, 1953, provide much food for thought. The medical research programs in the VA hospitals are increasing to a rather extraordinary extent. For example, in 1951, there were 52 hospitals with government supported research programs, utilizing assigned funds to the amount of about one million dollars; in 1953, the number had reached 74 hospitals and the funds over $3,500,000. By 1955, it is estimated that 94 VA hospitals will have such programs, employing almost 900 workers in the medical and isotope research laboratories alone, with funds in excess of 6 million dollars.

Alongside this interesting, and perhaps justifiable, research program is the depressing fact that a large number of medical conditions of indefinite nature are being utilized to provide compensation and pensions to an enormous number of veterans. The following tabulation is an outline of some of the conditions for which veterans are receiving compensation at the present time:

Condition	No. of Veterans Receiving Compensation
Muscle injuries	190,000
Flat feet	80,000
Painful low back	28,000
Bursitis and synovitis	15,000
Frozen feet	27,000
Varicose veins	23,000
Scars, tender	30,000
Dermatophytosis	30,000
Hyperthyroidism	555
Pleural cavity injuries (!)	11,000
Bronchitis	9,000
Gastric resection	3,500
Amebic dysentery	2,500
Hydronephrosis, cystitis, and prostatis	6,100
Anxiety reaction and hysteria	180,000
Rheumatic heart disease	26,072

It should be mentioned that, in connection with the 190,000 pensions for muscle injuries, "People who simply complain long and loud are given a rating." Of the 3,500 veterans given pensions for gastric resection, a recent survey showed that 85% of all those who had had the operation are well and working. However, most such veterans get 40% compensation! The 26,072 pensions for rheumatic heart disease also warrant scrutiny. There are 253,462 veterans getting compensation on the basis of cardiovascular disease; this includes 15,000 Spanish-American War veterans. From World War II, there are 117,000 men getting 5 million dollars monthly for rheumatic heart disease, "which they probably don't have."

In addition to the billions being spent on compensation and pensions for the conditions above mentioned, a serious professional problem arises from the fact that every VA regional office and hospital is being cluttered up with these persons getting their chests, sinuses, backs, feet, and so forth examined, reviewed, and "treated" every few months in order to maintain their claims. The classic example in one regional office is the man with a low back strain who has been getting heat treatment every week for six years.

What can the profession do about this situation? 1. It should publicize the facts. Perhaps an awakened public will elect less wasteful or generous congressmen. 2. It should consider suspending esoteric research until it has established criteria that will permit better evaluation of the above alleged diseases. 3. It should consider assisting the medical director of the Veterans Administration so that his policy for dental programs might be extended to medical programs. The very able and conscientious director (Admiral Boone) reports that there is a backlog of almost 400,000 persons awaiting dental treatment, not because of lack of dentists but because Congress did not appropriate sufficient funds for the program. Indeed, it is predicted that the backlog will exceed 800,000 by June, 1955, unless Congress appropriates over 50 million dollars. The medical director makes the significant statement that "A critical analysis of the outpatient dental activities indicates that continued repeated care of service-connected, non-compensable dental disabilities is a major factor in the increasing cost of the program. My advisors feel that it is administratively and professionally sound to restrict benefits for service-connected, non-compensable dental disabilities to the furnishing of maximum benefits on a one-time basis, and that it should not be mandatory under general regulations for the Veterans Administration to assume responsibility for continued therapy." Except for those veterans truly wounded in action or other truly service-connected conditions that can be benefited by medical science, some sort of halt should be called to continued, ineffective treatment for nondisabling and questionable conditions. The enormous compensation paid for these minor conditions should be reduced to a realistic and unattractive figure. The public deserves no less.

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MIGRATION FOR RELIEF FROM ALLERGIES

To the Editor:—The editorial "Migration For Relief from Allergies" (*J. A. M. A.* **154**:412 [Jan. 30] 1954) was quite timely. One important factor should have been mentioned to enhance the value of the article. Although many allergy sufferers feel improved the first year or two in their new locations and believe they are cured, not infrequently those with pollen allergies acquire a sensitivity to the local pollens, with a recurrence of the symptoms. I have seen this occur many times in persons seeking relief from this area, uprooting themselves, and going to the south or west. Striking relief, however, may occur in the type of allergy I designate as the "winter or cold-weather" type, but here again every skillful consideration must be utilized before the radical procedure of relocation is recommended.

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EXPERIMENTAL ANIMALS AND TOBACCO SMOKE

To the Editor:—From the standpoint of the rhinologist, there is one point that seems of particular importance in the discussion of the question concerning the inhalation of cigarette smoke and the increasing incidence of malignant new growths of the lung. This particular point concerns the use of animals as test subjects. Animals subjected to cigarette smoke do not inhale through the mouth, but through the nose, and consequently do not represent the condition of human smoking with inhalation.

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COUNCIL ON MEDICAL SERVICE

This is the 13th in a series of studies made by the Committee on Indigent Care of the Council on Medical Service concerning local plans for medical care of the indigent. A general introduction to the series and the first of the Committee's studies (Erie County, New York) appeared in the May 10, 1952, issue of THE JOURNAL, *pages 188-191. The 12th study (New York State) appeared in the Feb. 13, 1954, issue of* THE JOURNAL, *pages 612-614.*

MEDICAL CARE FOR THE INDIGENT IN PENNSYLVANIA

This is a study of medical service benefits made available to the indigent population of the state of Pennsylvania. The economy of the state is a varied one, with coal mining, oil, heavy and light industry, and agriculture well represented. The population of the state in 1950 was 10,498,012.

ELIGIBLE POPULATION

All assistance programs, whether federally aided or entirely financed by the state, are classified as "public assistance" in Pennsylvania; however, in order to maintain uniformity with previous studies, this report will utilize the term "public assistance" to refer to the federally aided programs only. Public assistance in Pennsylvania includes all four of the categorical assistance programs; in addition, there is a state-sponsored blind pension program. Table 1 gives the number of persons dependent on assistance at the end of 1951 and 1952. Regulations concerning eligibility for public assistance are similar to those in federally-aided programs in other states. The school medical program is a state-financed program providing for "medical, dental, or surgical treatment for school children whose parent or guardian states to the school authorities that he is financially unable to have a physician or dentist of his choice render such care, who are referred by school authorities for the correction of defects discovered in school health examinations." [1] Only children referred as a result of school medical examinations are eligible for aid under this program.

ADMINISTRATION

The five assistance programs providing medical services exclusive of in-hospital care are all administered by the Department of Public Assistance. The official program for hospitalization of indigents is administered by the Department of Public Welfare. The Department of Public Assistance was established by the Pennsylvania state legislature in 1937. In 1938 the law was amended to add medical care to the list of services provided by this department. The state Board of Public Assistance serves a policy-making function for the department. It is made up of the state treasurer, the auditor general, and seven private citizens appointed by the governor. The secretary of public assistance together with this board administers the entire public assistance program. Provision of medical care for the recipients of this program is supervised by the medical care division of the bureau of professional and technical services of the Department of Public Assistance. The supervisor of the medical care division is a medical social worker. This division administers the medical care program, makes regulations, sets standards, policies, and procedures for medical care, and collects, evaluates, and interprets data on the programs. The state Healing Arts Advisory Committee is made up of one representative each from the medical, osteopathic, dental, pharmacal, and nursing professions and one from the hospital administrators. This committee serves in an advisory capacity to the department on policies, regulations, disputes, and disciplinary action, and as a liaison with the various professional groups, interpreting the program to them.

This administrative structure is duplicated on a county level, with a county board of assistance, an executive director, and a county healing arts advisory committee. The county board is the local group of authority. It is composed of 7 or 11 members appointed by the governor and consists of interested lay persons engaged in business, industry, labor, social welfare, education, or public administration. This board hires an executive secretary and other necessary employees and officially administers the program for the county, conforming with the rules and regulations of the state Department of Public Assistance. This board determines eligibility, takes measures to promote welfare and self-dependency of the assistance recipient by securing rehabilitative and remedial aid, hears appeals concerning decisions of the employees of the board, and is officially in charge of the public assistance work in the county. The county healing arts advisory committee serves in an advisory capacity on the medical aspects of the assistance program, helping to coordinate and extend medical care to the assistance recipients of the community. This board reviews questionable invoices and therapeutic procedures and makes recommendations to the county and state boards of assistance. In some counties subcommittees have been appointed to help in making specific recommendations to the county board of assistance. Often the individual committee members are questioned when problems arise in their particular professional field.

It has long been recognized by the commonwealth of Pennsylvania that the services of private hospitals are essential in maintaining the general health of the population by providing their services to all persons whether or not they are able to pay for such services. In order to help defray a portion of the operating costs of these hospitals, the commonwealth distributes state funds to certain approved hospitals. The amount of this contribution depends on the amount of indigent work done by the hospital. To be eligible to participate in this state aid program the hospital must be nonsectarian and nonprofit. There are 176 such state-aided hospitals in Pennsylvania. The administration of this program of state aid to private hospitals is part of the work of the department of welfare. The use of a uniform accounting system enables the department to prepare for the legislature an estimate of the expected indigent work of a hospital for the forthcoming biennium. The legislature then allocates maximum sums that may be distributed to each hospital. The welfare department distributes these funds quarterly to each hospital and is responsible with the Department of the Auditor General for the development of an effective procedure for the administration of these funds. The law requires the credit department of each hospital to investigate the social and financial background of each patient in order to determine eligibility to receive free or partly free service. This determination is based on the patient's ability to pay. The state does not provide a rigid formula to determine the ability to pay but allows the credit department of each hospital to consider each case individually.

In the school medical assistance program, the school system is responsible for the initial examination indicating the need for medical care, applications to the county board of assistance for determination of elibility, arrangements for treatment, and follow-up studies to see that the treatment is provided. The work of the county board of assistance includes the determination of financial eligibility, the receipt and preparation of authorizations and invoices, and the forwarding of these to the state department for payment. The responsibility for the entire program of treatment is borne by the school authorities and not by the county board of assistance or its executive director.

TABLE 1.—*Number of Persons Dependent on Assistance*

	December, 1951	December, 1952
General assistance	27,366	23,864
Public assistance	239,704	202,306
Aid to dependent children *	125,717	104,904
Old age assistance †	79,373	70,954
Blind pension (state and federal)	15,479	15,863
Aid to permanently and totally disabled †	10,135	10,585
School medical program	.....	468‡

* Includes needy relatives living with recipient.
† Includes needy relatives living with and needy nonrelatives living with and performing essential services for recipient.
‡ Average: treatment approved for 5,615 applicants in 1952.

1. Payment for School Medical Assistance, Department of Public Assistance, Harrisburg, Penn., October, 1949, Sec. 3992.3.

SERVICES AVAILABLE

The indigent patient receiving official assistance under any category is free to call on any private physician or clinic for home or office care; all assistance recipients, therefore, are eligible to receive the same medical care. Except for a few who for some reason have been barred, all physicians may participate in the program and receive reimbursement for services rendered to assistance clients. Freedom of choice of a physician is, therefore, provided. Physicians and clinics are not limited to the services they provide except that only three calls per month are allowed for chronic cases. Compensable physicians' services may include home calls; obstetric care, including prenatal, delivery, and postnatal care; minor surgery performed in the home or office; general physical examinations; diagnostic examinations for pulmonary tuberculosis and venereal disease; and eye care. Drugs and surgical supplies that the physician provides are paid for if the cost is $2.00 or more. Dental services under the Department of Public Assistance program include emergency care, examination and charting of defects, extractions, fillings, treatment of oral pathology, and root canal therapy. Dentures and denture repairs were to be discontinued Nov. 1, 1953. Nursing service under the program is obtainable from qualified nurses. Initial visits may be requested by the attending physician, the family, the patient, or interested persons; all subsequent visits are made only upon order of the attending physician.

TABLE 2.—*Physicians' Fee Schedule (Partial)*

Schedule	Fee	
Office visits, per visit	$ 1.50	
Complete physical examination with urinalysis		
Office	5.00	
Home	7.00	
Obstetric and maternity care		
Prenatal, delivery in home, and postnatal	25.00	
Prenatal and postnatal care (delivery in hospital)	10.00	
Delivery in home, postpartum, and postnatal	25.00	
	7 a. m.-11 p. m.	11 p. m.-7 a. m.
Home visits		
One patient per visit	$ 2.50	$ 5.00
Two or more during same call	4.00	6.50
Visits to recipient in nursing home, rooming home, etc.	2.50	5.00
Each additional recipient, same visit	1.50	1.50
Maximum for one call	7.00	9.50

Drugs and appliances prescribed by the physician are provided by the state; however, the Department of Public Assistance will not pay for drugs available from another state program. Formerly only drugs listed in the "United States Pharmacopeia" or the "National Formulary" were provided, but these restrictions have been removed. Prescriptions that cost over $10.00 must have special authorization by the county board. The healing arts advisory committee advises the county board in matters regarding the use of expensive drugs. There is some variation among counties as to types and amounts of drugs authorized.

All services of the hospital are available to the indigent patient, although state aid is on a per diem basis and not on a fee-for-service schedule. No payments are made by the public welfare department for service to nonresidents, for chronic cases remaining in the hospital over 90 days or for outpatient services, but such outpatient clinic service is included in the medical care program administered by the Department of Public Assistance. The hospitals, of course, are not restricted in the amount of free care they may wish to give to patients, irrespective of their qualifications to receive state aid. The county homes of the county institutional district program are designed to care for the aged and are the present-day counterpart of the old "county poor farms." The aged indigents living in these county homes receive medical care, when such is necessary, at county expense. Tuberculosis patients and crippled children receive medical care in state hospitals and clinics, but this care is not a part of the indigent medical program. The state also has a vocational rehabilitation program.

Under the school medical assistance program administered by the Department of Public Assistance, eligible children receive services "to correct or improve the defects or chronic disabilities discovered as a result of the school health examination.[2] This program provides in-hospital care and certain surgical procedures in addition to the services included in the regular medical care program of the department.

2. Payment for School Medical Assistance, Department of Public Assistance, Harrisburg, Penn., October, 1949, Sec. 3992. 3.

PROVIDERS OF SERVICES

All doctors of medicine or of osteopathy, all dentists, and all pharmacists may participate in the program provided they are duly licensed to practice their respective professions and agree to abide by the regulations of the public assistance department. Nurses who participate must be registered or affiliated with a public health nursing organization, not supported by tax funds, and approved by the National Organization for Public Health Nursing.

PAYMENT FOR SERVICES

Table 2 shows some of the fees for physicians treating qualified recipients. All other services administered by the physician, such as drugs and supplies, diagnostic x-ray services, minor surgical operations, and procedures and treatment of dislocations and fractures are also compensated by payments according to a fee schedule. Physicians indicate on invoices the services rendered to a patient and send these to the county board of assistance; here they are checked for eligibility and service rendered. Questionable invoices are examined by the county healing arts advisory committee and may be returned refusing payment or requesting additional information from the physician. Invoices certified by the county board of assistance are sent to the bureau of finance of the Department of Public Assistance where they are reexamined; if they are passed by this office, they are sent to the Department of the Auditor General, which gives them a final review. A requisition is then sent to the state treasurer who issues a check payable to the physician for the total amount of his approved invoice; this check is sent back to the Department of Public Assistance, which mails it to the physician.

Clinics are paid on a per-visit basis. For general medical services, the payment is for the cost to the clinic, not to exceed $1.50 per visit. For complete prenatal care the fee is $7.50 per visit. The fee schedule includes most drugs and supplies and diagnostic and therapeutic procedures. The cost of only one such service will be reimbursed per clinic visit. Pharmacies are paid for prescriptions, supplies, and prosthetic devices that are prescribed by a physician. All prescriptions costing $10.00 or more must have special authorization of the county board of assistance. The pharmacies present invoices for each assistance client who has received prescriptions; these invoices travel the same route and are handled in the same way as are physicians' invoices for medical care. Pharmacists are paid at cost plus 50%. Drugs available without cost from the state Department of Public Health are not provided under the Department of Public Assistance program.

TABLE 3.—*Expenditures of Department of Public Assistance*

	1951	1952 (Approx.)
Regular assistance grants	$104,913,267	$ 93,581,764
Medical care	5,383,346	5,040,000
School medical program	131,814	94,985
Other assistance: emergency grants, foster care, burials	907,750	992,244
Administration	14,894,950	13,965,332
Total	$125,751,127	$113,674,325
Payable from state funds	$ 77,017,450	$ 63,553,686
Payable from federal funds	$ 48,733,677	$ 50,120,639

The state-aided hospitals receive reimbursement for indigent care at the rate of $6.50 per patient day. These funds are distributed by the welfare department quarterly, covering the immediately previous quarter. Payments to a single hospital must not exceed a maximum set by the legislature for the biennium.

COST AND FINANCIAL SUPPORT

The medical care program of the Department of Public Assistance cost $5,040,000 in 1952. Payments to physicians and pharmacies comprised about 80% of these costs. Table 3 shows a summary of the expenditures of the department for 1951 and 1952. The federal government participates in the assistance grants up to the maximum prescribed by federal law. Medical

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assistance, however, is over and beyond this maximum; therefore, no federal money is used in the medical program. The legislature makes appropriations to cover the anticipated expenditures of the Department of Public Assistance. If these appropriations are not sufficient to cover the program, deficiency appropriations are obtained. There are no allocations made for any of the individual programs except for the school medical assistance program, which receives adequately large funds.

EXPERIMENTAL PLAN IN SNYDER COUNTY

Some dissatisfaction exists among public assistance officials, the various healing professions, and the assistance recipients regarding the plan that the department is now using to provide medical services. The Snyder County board of assistance has devised a plan that is now being tried as an experiment. This plan replaces the invoice method of paying for medical care directly to the vendor of the services. Under the Snyder County plan money for medical care will be included in the monthly grant to the assistance client. An allowance of $1.00 per month will be made to each assistance client; if the client has an illness that requires medical care and is likely to continue for more than six months, an additional $5.00 per month will be added to the grant; at the termination of a miscarrage an additional allowance of $15 will be made for that month; at the termination of a normal delivery an additional allowance of $35 will be made. The assistance recipient is, of course, expected to use these monthly allowances to pay for any medical services he may need. This program is designed to simplify administrative procedures and cut administrative costs by eliminating the submission, authorization, checking, pricing, etc., of invoices. The plan also enables the patient to participate as purchaser in decisions as to whether or not he should seek medical services; under the present program, he need not have any concern as to the amount or cost of the service he receives. The experimental plan also gives the department more control of the cost of the program.

The Snyder County program will be effective only to the extent that the assistance recipients actually use the allowances to pay for the medical care that they need, provided the allowances are adequately large. Some prudent clients will set aside these medical allowances each month and will have them available when medical care becomes needed. Some persons will use part of their medical allowances for other purposes during months when there is no illness and will supplement the allowance for medical care during months when there is illness in the family. Some will not accumulate their allowances but will pay for medical care out of the medical allowances of the months after the illness. Some persons will fail to use these medical allowances for medical care at all but will appeal to the physicians for charity care. The chief advantages of this experimental plan are that it frees the medical profession from governmental interference and "red tape" and that it eliminates much of the administrative cost of the present plan. Whether or not the assistance client will use his medical allotment for its assigned purpose seems problematic.

COMMENT

Some dissatisfaction with various aspects of the program has been expressed by administrators of the plan and by those who provide the services. One criticism is to the effect that more adequate services should be provided for the chronically ill and for those medical indigents who are not eligible for coverage by the assistance programs. There is also evidence that some assistance recipients, who are eligible for care under the program, are reluctant to tell their physicians that they are on the assistance rolls. These patients either pay for their care from their regular grants, which are not intended to cover medical costs, or are treated without charge by the physician.

Physicians, of course, dislike a complicated system of "red tape," such as is involved in the present plan. The program's administrators are concerned about the rising cost of the medical program, in the face of decreasing assistance rolls. The physicians believe that this is caused by (1) the increased cost of new drugs and diagnostic and therapeutic procedures and (2) the fact that, as the assistance rolls decrease, the healthy clients find jobs while the chronically ill or disabled unemployables remain. The administrators, however, claim that frequently the physicians "over-prescribe" and that assistance patients receive new, expensive, and sometimes unnecessary drugs by virtue of the fact that the state will pay for these medications. They agree, however, that it is difficult for the lay administrators to evaluate medical problems properly.

It has been charged that some physicians tend to "specialize" in welfare work, devoting a large part of their practice to treatment of assistance clients. In some cases where collusion between physicians and pharmacists or other forms of malpractice have been proved to exist, offenders have been prosecuted, fined, and barred from the program.

Such problems, of course, may arise in any program where lay persons administer the funds for a technical service. Under a program too strictly regulated, medical care suffers; in a program too loosely organized and supervised, unnecessary spending and prohibitive costs may result. A keen understanding of both points of view is essential to administer any program adequately. However, the device of the state and county advisory boards, acting as liaison between administrators and providers of care, and the demonstrated willingness to test new methods of administration indicate a basic soundness in this approach to the problem.

SUMMARY

All recipients of public and general assistance, a group that included in December, 1952, about 2.2% of the state's citizens, are eligible for medical care under the same program. The Department of Public Assistance administers subsistence grants and the nonhospital medical care program. Medical care provided includes home and office visits by the physician of choice, outpatient clinic services, drugs and appliances prescribed by the physician, services of the dentist of choice, and visiting nurse service. There are no significant restrictions placed upon the amount of these services, since the attending physician and the county healing arts advisory committee determine the proper course of therapy. Ordinarily, chronic cases may receive only three physician calls per month. However, if the illness becomes acute, more visits may be authorized on the physician's request.

The state Board of Public Assistance serves as the governing and policy-making board of the nonhospital medical program. The secretary and this board administer the program from the state level; the supervisor of the medical care division is a medical social worker. This administrative structure is duplicated on a county level where applications, eligibility determinations, and authorization of service are all handled. At both the state and county level there exists a healing arts advisory committee made up of representatives from each professional group participating in the program. This committee serves an advisory function in medical matters.

Physicians, clinics, pharmacies, and other vendors of medical services report the care given to assistance recipients on special invoices. These are sent to the county board of assistance, which checks them regarding eligibility and the proper type of medical care provided; they are then sent to the state offices where another series of checks and re-checks is performed before payment is made. Physicians are paid according to a fee schedule covering home and office visits and routine office procedures. No payments are made for services rendered to a hospitalized patient.

Hospitalization of the indigent is administered by the Department of Public Welfare through a system of reimbursement to certain state-aided hospitals to cover a portion of the costs of their indigent work. Indigents make application to the hospital for these services. No exact formula is prescribed by the state as to eligibility requirements; the determination of eligibility is left largely to the hospital. The state also maintains several state-owned general hospitals located in the coal-mining areas of the state; these hospitals do a large amount of indigent work. All surgery that cannot be handled in the doctor's office requires, of course, hospitalization. Hospitals, therefore, are expected to care for these patients as a part of their regular staff case load. Reimbursement to the state-aided hospitals is on a per diem basis; no fee schedule exists to cover specific services or operative procedures.

COUNCIL ON NATIONAL EMERGENCY MEDICAL SERVICE

The following paper is one of a series of six special articles dealing with the role of the individual physician in medical civil defense planning and operations.

C. JOSEPH STETLER, *Secretary.*

HOW TO ORGANIZE FOR CIVIL DEFENSE

Charles W. Steele, M.D., Lewiston, Maine

The active participation of representatives of medical and allied health groups is required if, within the state or community, an adequate program of health and special weapons defense is to be planned and developed. They must participate both as representatives of their groups and as individual citizens possessing special knowledge and skills. The physician must assume a position of major responsibility, and he must be prepared to discharge a variety of different duties and contend against a great many difficulties.

It is often quite difficult to assemble and correctly interpret all the factors that add up to a successful medical and public health plan with the active participation of the doctors in one area or to an impotent health defense organization with apathy of both the public and the professional groups in another section. Unfortunately, it sometimes takes only one or two adverse factors such as politics or gross incompetence in the state or local civil defense organization to alienate the members of the professional organizations. For example, in one Maine county, politics forced the transfer of the county civil defense headquarters from one town to another; as a result of this move and disagreements between the commissioners and the civil defense director, the doctor on that civil defense staff resigned and no other doctor in the area will agree to take the assignment.

On the other hand, no health defense plan, whether it be at the state, county, or local level, can expect to enlist and sustain the active support of doctors, nurses, dentists, and pharmacists unless the planners give a reasonable amount of attention to the several basic considerations that follow.

A SOUND, PRACTICAL CIVIL DEFENSE MEDICAL PLAN

The state, county, and city civil defense health plans must be simple and yet adequate to cope with either a natural or an enemy-inflicted disaster. The plan must make the best use of all available medical and related professional personnel. State and local medical resources must be conserved and used to the best advantage. Finally, the medical and public health plan should be designed to cause all doctors, dentists, nurses, and pharmacists the least possible inconvenience. Neither physicians nor the general public can be interested in complicated and costly medical defense plans.

AN ADVISORY COMMITTEE ON EMERGENCY MEDICAL SERVICE

It is essential that there be an active medical committee on civil defense in the state to advise the state civil defense director and his staff on matters pertaining to the participation of doctors and hospitals in the health and special weapons sections of the programs of the state, county, and city civil defense organizations. This committee should be composed of doctors from the council districts in the state and from the various specialty groups such as public health, radiology, pathology, surgery, and medicine.

Neither government nor medical politics can have any part in a sound state, county, or city civil defense medical and special weapons defense organization. I have observed that doctors promptly lose interest and resign as soon as politics is allowed to enter into civil defense organizations. The original Committee on Civil Defense of the Maine Medical Association was composed of three World War II army medical officers, appointed almost a year before the Maine Civil Defense and Public Safety Act was passed in April of 1949. The health defense plan prepared by this committee was accepted by the State Civil Defense Director, and the chairman of the committee was appointed in July, 1950, to serve as the State Health and Special Weapons Defense Deputy Director. The Committee on Civil Defense of the Maine Medical Association has been gradually enlarged until it is now a 14-man body that includes a representative from each of the six council districts and the members-at-large.

Such success as may have been achieved in the development of the health defense plan and in the active participation of doctors in the organization at all levels may well be attributable to the fact that the chairman of the Committee on Civil Defense of the Maine Medical Association has served as Medical and Special Weapons Defense Deputy Director and has consistently consulted his committee and received its approval before putting each section of the basic medical plan into operation. In other words, the Maine State Health and Special Weapons Defense Plan has been the doctors' plan from start to finish.

COOPERATION BETWEEN MEDICAL AND CLOSELY ALLIED PROFESSIONS

The Committee on Civil Defense of the Maine Medical Association and the State Health and Special Weapons Defense Deputy Director agreed that the cooperation and assistance of all the closely allied medical specialty groups would be required to insure the success of the state, county, and city health defense organizations. Hence, each allied state health organization was asked to name a committee on civil defense with a view to determining just how each such group could best contribute to the over-all civil defense effort throughout the state. The chairman of each of these committees was appointed to serve on the state civil defense staff as an assistant health and special weapons defense director. In this way it was possible for the medical and allied organizations to agree on civil defense projects to be sponsored by each group and for the State Medical and Special Weapons Defense Director to coordinate all these activities, while at the same time obtaining the active support of all members of these various organizations.

ASSIGNMENT OF DOCTORS TO KEY POSITIONS IN PLAN AT ALL LEVELS

Another important reason why it has been possible to interest physicians in civil defense in this state is the fact that the majority of the members of the Committee on Civil Defense of the state medical association have been given and have accepted important assignments in the health and special weapons defense organization at either the state, county, or city level. Members of the state committee are serving as follows: one as state deputy director for health and special weapons defense; one as alternate state deputy director; two as regional state deputy directors; one as assistant state deputy (biological) defense director; one as assistant state deputy (hospital) director; one as assistant state deputy (public health) director; one as assistant state deputy (blood banks and transfusions) director; and three as county health and special weapons defense deputy directors.

Every county health and special weapons deputy director within this state is a doctor of medicine. This arrangement has insured the doctors a real voice in the basic planning and in the actual operation of the state, county, and city medical and special weapons defense organizations. Doctors are interested and willing to cooperate because the medical plan is their own and because each doctor has been given a specific assignment commensurate with his training and type of practice in the state, county, and city health and special weapons defense organization. Over 500 out of 850 members of the Maine Medical Association have already been given and have accepted specific civil defense assignments.

Chairman, Committee on Civil Defense, Maine Medical Association, and Maine State Civil Defense Deputy Director for Health and Special Weapons Defense.

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LEADERSHIP BY STATE MEDICAL SOCIETIES

It is of foremost importance that the state medical society select active members of its organization to serve on its health and special weapons defense committee, for it is this group that should provide the energetic leadership that is so essential to the success of any medical civil defense plan. The members of this committee should be men with mature judgment and with sufficient personal integrity to command the respect and trust of their associates, yet they must be young and vigorous enough to have the necessary time and energy to devote both to civil defense planning and to active participation in the civil defense organization at the state, county, and local levels. Members of the committee must know firsthand about the problems in medical planning at all levels.

Active duty military experience in handling mass casualties under combat conditions or its equivalent may not be absolutely essential training for all committee members, but such experience is certainly most helpful in providing the background that is needed if the committee is to point up the magnitude of the task in this atomic age. Doctors and related group personnel without such experience have great difficulty in visualizing the size of the organization required to handle adequately large numbers of casualties, and they commonly have very little idea as to how to proceed with the formation of a casualty-care organization.

Initiative, hard work, and persistence are essential to the success of every medical and public health defense plan. The chairman and all members of the committee must spend much time in formulating a sound basic plan that will be ready when it is asked for by the state, county, or local civil defense directors. Otherwise, someone else without medical know-how and experience may provide the medical and public health plans under which the doctors will be expected to work in time of disaster. Patience, diplomacy, and the ability to use good common sense are other qualities that make for successful medical leadership and help to enlist the support of associates and fellow workers in the civil defense effort. Conflicting ideas must be compromised. Volunteer workers require praise for their accomplishments and must be persuaded, not ordered, to do their part in the medical organization of civil defense. There has not been a single failure at the county or city level in Maine when a good, vigorous leader has headed up the medical and special weapons defense organization.

IMPORTANCE OF SALESMANSHIP TO A SUCCESSFUL PROGRAM

A successful medical leader not only must have sufficient vision and personal belief in the need for an adequate civil defense medical plan and organization but also must sell the entire idea and the need for participation of all professional groups in this vital project to his less civic-minded brethren. Selling civil defense to the medical and related organizations will no doubt tax the sales ability of every person active in the medical and special weapons defense organization at the state, county, and city levels, but the selling job can be done if all interested members of the profession work at the task. The occurrence of natural disasters in nearby areas, such as hurricanes, floods, and harbor explosions, provide opportunity for realistic experience in disasters, and the close proximity of large bomber and fighter bases make it easier to convince doctors, dentists, nurses, and pharmacists of the need for civil defense medical planning and the reasons why they should take specific assignments in the civil defense health and special weapons organization.

COMMENT

In Maine, the factors that have been listed here are given major credit for the active participation and for the interest displayed by doctors and by members of the closely allied professions in civil defense medical activities. Other items not discussed here may well have exerted influence on doctors in some localities both within this state and in other states. In the last analysis the factors that favorably influence physicians in one section of the country are bound to differ from those that operate in another part of the nation with differences in terrain, climate, industry, density of population, etc. Leadership and salesmanship techniques should remain flexible in order that doctors in all parts of this nation become sufficiently interested in civil defense planning.

BUSINESS PRACTICE

The following material is based on a public relations manual issued by the Public Relations Department of the American Medical Association.—ED.

WINNING THE PATIENT'S GOOD WILL

A physician's manner can greatly affect his relationship with his patients. Not all doctors are born extroverts or endowed with the personalities of movie psychiatrists. Some are shy, some are brusque. Often a physician must work hard to cultivate a gentle, interested, and reassuring manner. The good will and friendship of patients are not won in hurried five-minute interviews or with the quick scribbling of a prescription. In order to give the personalized treatment that patients have a right to expect, the physician should cultivate a calm, assured manner, show a sincere interest in the patient, and give evidence of sympathy while retaining firm control of the interview. He should give his full attention to the patient, because people soon lose confidence in the "absent-minded professor" type of physician. Above all he should take time to listen patiently.

Patients resent being rushed through an interview with the doctor. The physician must give the impression that he has plenty of time to listen to each patient's problems. When the waiting room is full of patients, this is not always easy. One doctor points out, however, that, although the complaint may be minor to the physician, it is major to the patient. Frequently, listening attentively and making a careful examination means more to the patient than the drug or treatment prescribed. The doctor who can put himself in the patient's place and proceed accordingly has mastered the secret of giving each patient personal care. When the interview with the physician is concluded and the patient has been given an opportunity to ask any questions he may have, it is time for a friendly farewell. If the patient requires another appointment, the physician or his assistant should schedule it and write out a reminder card for the patient. The same friendliness that characterizes the welcome should be shown by the doctor and his staff when a patient leaves the office. If the physician can take time to walk to the door with the patient, this friendly gesture will be appreciated. The patient should leave with the feeling not only that he has received the best medical care but also that he has been treated as an important person.

MEDICAL FILM REVIEWS

NEW FILM ADDED TO A. M. A. MOTION PICTURE LIBRARY

Physical Aspects of Puberty: Adolescent Development Series: 16 mm., black and white, sound, showing time 18 minutes. Produced in 1953 by Crawley Films, Limited, for McGraw-Hill Book Company, Inc. Correlated with the textbook "Adolescent Development" by Elizabeth Hurlock, Ph.D. Procurable on loan (service charge $2.00) from Committee on Medical Motion Pictures, American Medical Association, 535 North Dearborn Street, Chicago 10.

The emphasis in this film is on the physiological aspects of puberty. Chiefly in animation, it describes such physical changes as the importance of the endocrine glands in puberty, the gonadotropic hormone, the development of male and female reproductive organs, secondary sex characteristics, and other physical changes. This is handled in two sections, one dealing with physical maturation in boys and the other with physical maturation in girls. After establishing these basic physical facts, the film shows how normal variations in this development can have social repercussions. For example, the underdeveloped boy or girl is often shut out of his or her age group and forced to play with younger persons. The fast-growing boy or girl sometimes appears awkward or sexually premature, and, in general, behavior problems that seem emotional are often based on the rate of physical growth.

Essentially this film is scientifically accurate, and the authors should be commended for their treatment of the subjects of adolescent acne, emotional disturbances, nocturnal emissions in boys, and the menarche in girls. This picture is well organized. The photography and narration are excellent. Since it has been designed to accompany a textbook at the college level, the primary audience will be college classes in psychology; however, it will also be of interest to parents of junior high school and high school students. Doctors who are called upon to speak before these parent groups will find the film useful as a springboard from which to expand on the physiology and psychology of adolescent behavior.

FILM REVIEW

Intestinal Obstruction Due to Ascaris Lumbricoides: 16 mm., color, silent, showing time 14 minutes. Prepared by Hilger Perry Jenkins, M.D., and Daniel J. Pachman, M.D., University of Illinois College of Medicine, and Woodlawn Hospital. Produced in 1953 by and procurable on loan from Hilger P. Jenkins, M.D., Woodlawn Hospital, 826 East 61st Street, Chicago.

In this film a case history is presented of a child in whom ascaris lumbricoides infection caused intestinal obstruction. The salient features of the operation have been photographed, including demonstration of the mass of parasites causing the obstruction. The life cycle of the ascaris is likewise illustrated. The photography is very good. The case is obviously a very rare one, thus limiting its teaching value; however, the purpose intended by the film has been well achieved, and the film is adaptable for postgraduate teaching.

BUREAU OF LEGAL MEDICINE AND LEGISLATION

MEDICOLEGAL ABSTRACTS

Scientific Tests: Use of Truth Serum by Psychiatrist—Admissibility in Court.—The defendant was convicted of murdering his sister-in-law and he appealed to the Court of Appeals of New York.

Two psychiatrists retained by the defendant testified that the defendant was not insane but they thought, as did the psychiatrists called by the state, that he was a "psychopathic personality." They therefore were of the opinion that he was incapable of premeditation or deliberation. Thus, the jury had to decide whether there had been enough of premeditation and deliberation to make out first degree murder, and the jury must have wrestled hard with that question, since they returned, after some deliberation, to hear again the court's definition of "premeditate." For all these reasons, it was most important, said the Court of Appeals, that the jurors have the full benefit of whatever the defendant's experts had to offer in proof of their assertions that the defendant, while not "legally insane," was of limited mental capacity.

One of the psychiatrists called to the stand by the defendant had had three interviews with the defendant at the county jail on three different days. He told the court and jury what he had observed on the first and third of those occasions, but as to the second, he was not allowed to testify. It appeared, said the Court of Appeals, that after hearing from the defendant at the first interview a rambling and incredible story of the occurrences on the night of the killing, the psychiatrist, on his second visit to the jail, injected into the defendant a dose of amobarbital sodium (sodium Amytal), popularly called "truth serum." The district attorney, at the trial, objected to any testimony as to what happened after that. The witness was allowed, however, to explain that amobarbital sodium injections produce drowsiness and result in uninhibited disclosures by the subject and that their use is a recognized method for testing mental conditions. He himself had used such tests more than 3,000 times, and he stated that, while not infallible or universally accepted, the method was a standard and valid one.

The trial court refused to let him give any testimony as to the second interview or meeting with the defendant, that is, the one at which the defendant was under the influence of the drug. The ground for that ruling was that there was no showing that the details and results of such a test had ever been admitted in evidence in a New York court. Actually, said the Court of Appeals, we did discuss the use of amobarbital sodium for testing sanity in 1942, in a prior case, and we there referred to it as one of the "methods set up objectively by the medical profession for the proper determination of such claims," that is, claims of deranged mental condition. In this case it was essential that the jury should be informed as to the facts on which the expert based his conclusions in order to determine whether they were well founded. The jury are entitled to all the facts on which the expert bases his opinion. If he answers a hypothetical question, the facts therein set forth have been proved at the trial. If he rests his answers on facts and knowledge he has acquired himself, he must impart them to the jury. This expert witness, said the court, did state an opinion in answer to a hypothetical question, and he gave that same opinion as based on the first and third interviews, but as to that part of his knowledge or impression that he acquired by testing, he had to remain silent. It is not for us to guess what the testing did show, or what the psychiatrist would have claimed for it, the Court of Appeals concluded. The case should, therefore, be tried again.

Accordingly the judgment of conviction was reversed and a new trial ordered. *People v. Ford, 107 N.E. (2d) 595 (New York, 1952).*

Animal Experimentation: Validity of Requisition Law.—This was an action for an injunction against the State Commissioner of Health relating to the use of living animals in scientific tests or experiments conducted in laboratories. The case was heard in the supreme court, special term, New York County, Part III, N. Y.

The Metcalf-Hatch Law, Chapter 96, Laws 1952, amended the Public Health Law of New York by adding Section 5a. It authorizes the State Commissioner of Health to designate approved laboratories or institutions wherein scientific tests, experiments, or investigations involving the use of living animals may be performed or conducted under prescribed rules. It further provides that the State Commissioner of Health or the Commissioner of Health of the City of New York may requisition in lieu of destruction unlicensed, unwanted, or unclaimed animals impounded pursuant to law, at a fee to be fixed by the Commissioner and paid by the receiving laboratories. It also contains restrictive and administrative provisions designed for the carrying out of the purposes of the act as well as the humane policy of the state to prevent cruelty to animals.

It is significant to note, said the court, that Section 185 of the Penal Law, as amended in 1947, permits similar use of living animals in language almost identical with that used in the Metcalf-Hatch Law but under less stringent regulations. As a matter of fact, the only new provisions of the Metcalf-Hatch Law are those providing for the requisition of animals and the additional restrictions looking toward strengthening the humane policy long upheld in the statutes of this state.

The court said that it had long been the established law in this state that there is but a qualified property in dogs and other animals, and that reasonable regulation with respect to them is a valid exercise of the police power of the state. Any expenditure of public funds that may be required to implement the provisions of the Metcalf-Hatch Law is *de minimis*, particularly in view of what is now being done under the provisions of Section 185 of the Penal Law. The fact that some financial benefits may accrue to private institutions does not invalidate legislation that is otherwise in the public interest. The contention that the language of the act may be broad enough to permit improper application or use of the powers delegated to the commissioners is of no avail. Not only is there no showing that any such application or use is threatened or contemplated; there is affirmative proof to the contrary. Finally, the court found no rights of any person to be affected by the requisitioning of animals in accordance with the provisions of the act, and that the act itself is neither in conflict with the constitution of the state nor the Constitution of the United States. Accordingly the plantiff's application for an injunction was denied. *New York State Voters League VS Vivisection, et al. v. Hilleboe, 114 N. Y. S. (2d) 805 (New York, 1952).*

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MEDICAL LITERATURE ABSTRACTS

INTERNAL MEDICINE

Infection of Man with Avirulent Rickettsiae of Epidemic Typhus (Strain E). M. G. Everritt, P. N. Bhatt and J. P. Fox. Am. J. Hyg. **50**:60-73 (Jan.) 1954.

The chance evolution in embryo passage of a strain of Rickettsia prowazeki of apparently reduced virulence was described by Clavero and Perez Gallardo in 1943. They designated it as strain E. The present paper reports the first results of a program to evaluate strain E as a potential living rickettsial immunizing agent for the protection of man against epidemic typhus fever. Twenty-nine volunteers were inoculated with varying doses of living strain E rickettsiae by various routes. The 21 volunteers who received 4.5 log egg-infective doses or more showed at least some serologic response to infection; no such response was evinced by the 8 volunteers who received smaller inoculations. A direct correlation seemed to exist between the maximum level of antibody response and the size of the infecting dose. This fact, together with the large dose (4.5 log E.I.D. [egg infecting doses]) required to provoke a response and the inability to recover the agent from the blood stream either by louse feeding or direct inoculation methods, is taken to indicate that the multiplication of strain E rickettsiae in man is very restricted. That some multiplication does occur, however, is indicated by two types of evidence. 1. When formalin-inactivated strain E rickettsiae was used in 13 volunteers, a dose equivalent to 7 log E. I. D. of viable rickettsiae was required to evoke a response. 2. Clinical phenomena such as eschar-like lesions at the site of intradermal inoculation, regional lymphadenitis and the occasional occurrence of delayed febrile reactions can be explained only on the basis of true infection. The present observations do not provide an adequate basis for evaluating strain E as a living agent for immunizing man against epidemic typhus. However, none of the reactions provoked was of sufficient severity to contraindicate the use of strain E for such a purpose. Also, cross tests by the complement fixation and neutralization techniques failed to reveal evidence that strain E differs antigenically from unmodified strains of R. prowazeki.

Immunization of Man Against Epidemic Typhus by Infection with Avirulent Rickettsia Prowazeki (Strain E): Post-Vaccination Reactions, Relation of Serologic Response to Size and Route of Infecting Dose, and Resistance to Challenge. J. P. Fox, M. G. Everritt, T. A. Robinson and D. P. Conwell. Am. J. Hyg. **50**:74-88 (Jan.) 1954.

This report describes observations on 125 volunteers who had been infected with varying doses of living strain E rickettsiae by different routes. Uniform serologic response, detectable by complement-fixation and by neutralization tests, was elicited by 6 or more log E.I.D. (egg infecting doses). With lesser doses in the range of from 4 to 5 log E.I.D. occasional failures (4 out of 57) were encountered. These responses were more uniform and of greater degree than those manifested by a group of 27 volunteers given a primary course of Cox-type vaccine. Continued observation over a period of one year after infection revealed a marked waning of complement-fixing antibodies and, to a lesser extent, of neutralizing antibodies. However, the latter antibodies were readily demonstrable in 59 of 60 one year serums from persons whose complement-fixing antibodies, once demonstrable, had disappeared by this time. Challenge experiments with virulent Rickettsia prowazeki at intervals of 2, 7.5, and 12 months after immunization indicated that effective immunity persisted for at least one year. While the optimum method of immunization with strain E has not been precisely defined, the data presented suggest that the infecting dose should be at least 6 log E.I.D. and that it should be given by the intradermal or intramuscular routes.

Ventilatory Effects of Head-Down Position in Pulmonary Emphysema. A. L. Barach and G. J. Beck. Am. J. Med. **16**:55-60 (Jan.) 1954.

Observations were made on the effect of elevation of the diaphragm by headward displacement of the viscera produced by the headdown position in patients with pulmonary emphysema. The patients were tilted at an angle between 12 and 20 degrees; in most cases an incline of 16 degrees was used. Striking relief of dyspnea was acompanied by increased diaphragmatic excursion and a pronounced decrease in the minute volume of ventilation. In 24 patients the average decrease in pulmonary ventilation on tilting from the sitting to the head-down posture was 22%. The average decrease in pulmonary ventilation for this group in the sitting position, when 100% oxygen was substituted for air, was 15%. The arterial oxygen saturation was measured in the lying head-down position after 45 minutes; in one patient with associated cardiac insufficiency a drop of 1.6 vol. % took place; in three more patients there was no significant change; in six patients the arterial oxygen saturation increased. In 7 of 10 patients in whom an average drop of 26% in pulmonary ventilation took place with the head-down position the pH and carbon dioxide tension showed little or no change. In two patients a rise in carbon dioxide tension of 4 to 5 mm. Hg was observed, with a drop in pH from 7.43 to 7.39 and from 7.5 to 7.45. In one patient with an associated respiratory acidosis the pH rose markedly, from 7.27 to 7.44. The effect of elevation of the diaphragm by upward pressure of the viscera resulted in increased diaphragmatic excursion, comparable in some respects to raising the resting level of the diaphragm by increase of the intra-abdominal pressure through the use of abdominal belts or by pneumoperitoneum. The increased efficiency of alveolar ventilation of the lower lobes induced by diaphragmatic as compared to costal breathing was illustrated by the blood gas changes in 8 of 10 patients tested. In three patients in whom the arterial oxygen saturation was unchanged, there appeared to be adaptation to an accustomed degree of anoxia that permitted pronounced lowering of pulmonary ventilation and consequent relief of dyspnea. These observations provide a physiological basis for the clinical use of viscero-diaphragmatic breathing in patients with pulmonary emphysema.

Immunity to Tuberculosis in Infancy (With Special Reference to Vaccination in the Newborn). W. Gaisford and M. Griffiths. Tubercle **35**:7-14 (Jan.) 1954.

According to Gaisford and Griffiths immunity to tuberculosis in infancy cannot be achieved with certainty. BCG vaccination offers the best means to ensure maximal resistance. In an attempt to assess the value of vaccination in the newborn 3,500 infants vaccinated at St. Mary's Maternity Hospital in Manchester were followed for the past three years. The type of vaccine used, the dose, and the site of injection were varied in order to determine the best and safest routine. Results showed that of the three vaccines used (Danish vaccine, Swedish vaccine, and a freeze-dried vaccine prepared at the Pasteur Institute), the Swedish vaccine is a much more attenuated one than the Danish; the French vaccine is also weaker. The Swedish vaccine builds up slowly so that 12 months after vaccination the titer is stronger than at 1 or 3 months. The French vaccine varies according to the percentage of living organism it contains. The arm proved to be the safest site, provided that the area chosen for BCG vaccination was not above the insertion of the deltoid muscle and that any other injections, particularly

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immunization and vaccinations, were not given in that arm for six months, because a flare-up, either at the site of inoculation or in the axillary gland, may follow. Conversion was undoubtedly quicker in infants vaccinated after the age of one year; nevertheless 90% of the infants vaccinated in the newborn period reacted with more than 5 mm. of induration after 100 tuberculin units at four weeks, and after a year the response to the tuberculin jelly test was almost identical in those vaccinated in the newborn period and those whose vaccination had been delayed until between 1 and 12 months of age. The incidence of complications decreased pronouncedly when vaccination was postponed until after the age of one month and was practically negligible after six months of age. None of the complications were serious and the striking feature was the complete freedom from secondary infection of any kind. The authors feel that the slight risk of an axillary abscess (approximately 3 per 1,000 may be expected when 0.05 cc. Danish vaccine is given in the arm) is more than compensated by the accessibility of the newborn infant for vaccination and by the early protection afforded. During the three years of follow-up, there were no cases of tuberculosis in the vaccinated infants. There were 27 known deaths, and in none of the 9 in whom necropsy findings were available was there any evidence of spreading infection due to BCG. During the same period of time 17 deaths were recorded from tuberculosis in Manchester in unvaccinated children under the age of 2 years. If vaccination is to be done, it should be done at earliest infancy, but as the technique is by no means easy at this age, it should be done by trained persons with considerable experience and should not be lightly recommended as a routine procedure in the newborn.

Tic of Respiratory Muscles: Report of Three Cases and Review of Literature. W. Dressler and M. Kleinfeld. Am. J. Med. **16:**61-72 (Jan.) 1954.

The occurrence of tic of the respiratory muscles is reported in three women between the ages of 31 and 40 years. Two of the patients had diaphragmatic flutter-fibrillation and one had tic of intercostal muscles. In addition to the authors' three patients, 17 cases of tic of the respiratory muscles in patients between the ages of 9 months and 84 years were collected from the literature and reviewed. Of the 20 patients, 17 had diaphragmatic spasm and 3 had tic of intercostal muscles. Hiccup was not included in this study. Pain in the chest, shoulders, extremities, and abdomen was a predominant feature in some patients with diaphragmatic tic, but in most including the authors' own patients pain was not a significant symptom. Exhaustion was the chief complaint in a group of patients who suffered from protracted attacks of diaphragmatic spasm. Cyanosis was absent in all the patients. Vibratory movements of the chest and abdominal wall observed on inspection and palpation were most helpful in the diagnosis of respiratory tic. Tic of the intercostal muscles was manifested by a characteristic see-saw movement of the anterior thoracic wall. In a few cases of diaphragmatic spasm and tic of the intercostal muscles vibrations of the entire trunk were noted. Peculiar muscular sounds described as to-and-fro shuffle, sometimes resembling a pericardial friction rub, or as tapping, swishing, or churning sounds, were heard on auscultation. Laboratory findings were rarely significant. Tic of the diaphragm may be caused by (1) a disturbance in the central nervous system, (2) stimulation of the phrenic nerve along its course, (3) a peripheral disturbance that stimulates either the terminations of the phrenic nerve or the diaphragmatic muscle directly. Two of the authors' three patients had mitral stenosis and pronounced enlargement of the heart, but it is difficult to evaluate the significance of this factor in the genesis of respiratory tic. All three patients with tic of the intercostal muscles showed psychopathic features and the authors' own patient had hysterical hyperventilation and was a morphine addict; the latter factor had a distinct influence on the manifestations of the tic of the chest wall. In a few cases it was possible to attack the cause of the tic; treatment of tetany or removal of a cervical rib or fractured xiphoid process brought permanent relief from diaphragmatic spasm in three patients. Administration of drugs such as dihydromorphinone (Dilaudid) hydrochloride, phenobarbital, inhalation of 10% carbon dioxide, or tribromoethanol (Avertin) anesthesia caused transient improvement at most. Prompt but only short relief of diaphragmatic tic resulted as a rule from block of the phrenic nerves by procaine hydrochloride or freezing. Spasm of the diaphragm can be relieved permanently only by total avulsion of the phrenic nerves. In the authors' patient with the tic of the intercostal muscles, the tic was aggravated by withdrawal of morphine and relieved by administration of the narcotic.

Interrelations Between Hiccup and Electrocardiogram. E. Lepeschkin. Am. J. Med. **16:**73-79 (Jan.) 1954.

In five patients with recurrent hiccup, the hiccup sounds were recorded synchronously with three leads of the electrocardiogram. In four of these patients, hiccup appeared for a brief period after abdominal operations, while one patient had arteriosclerotic heart disease. In three patients, the hiccup movements caused electrocardiographic artifacts that could be confused with U-waves or with auricular and ventricular premature beats. The hiccup sounds as well as the artifacts always occurred 0.17 to 0.4 seconds after the beginning of the QRS complex of the electrocardiogram, and in some cases two successive heart beats were followed by hiccup movements. It is postulated that in the reported cases the hiccup was caused by stimulation of one of the phrenic nerves by the electric currents registering as the QRS complex of the electrocardiogram. The hyperirritability of the phrenic nerves in all previously reported cases of diaphragmatic contraction synchronous with the heart beat was probably due to a decrease in the ionized serum calcium or to alkalosis. The concept that hiccup may result from stimulation of hyperirritable phrenic nerves by action potentials arising from the heart is the basis for the proposal of a new method of treatment of intractable hiccup by insufflation of the pericardium with air. Even a small amount of an electrically nonconducting gas or liquid would be sufficient to prevent the electric currents generated by the heart from reaching the phrenic nerves. The beneficial effects of treatment with calcium salts, parathyroid hormone and dihydrotachysterol on hiccup would be obtained regardless of whether it is caused by the electric currents produced by the heart or by central or reflex excitation of the phrenic nerves.

Pulmonary Changes Secondary to Cardiospasm. R. C. Wilmore. J. Indiana M. A. **47:**25-29 (Jan.) 1954.

Wilmore emphasizes the importance of cardiospasm in the etiology of pulmonary disease, pointing out that the aspiration of the contents of the dilated esophagus causes pulmonary disease in a significant number of cases. He reviews the literature and describes observations on four cases that bring the total of reported cases to 137. Two of the four patients had the commonest type of pulmonary complication of cardiospasm, that is, nonspecific fibrosis; another patient had two complications, atelectasis and pneumonitis; and in the fourth patient bronchiectasis developed as a complication of cardiospasm. Treatment of these pulmonary conditions is the same as in the absence of cardiospasm, but the recurrence or progression of the condition may be prevented by treating the cardiospasm. Far advanced pulmonary fibrosis is not reversible. The incidence of pulmonary disease as a complication of cardiospasm is probably greater than is generally suspected. Either massive aspiration or repeated aspiration of small amounts of esophageal contents may cause pulmonary involvement. This aspiration would tend to occur more commonly at night when the cough reflex is normally somewhat depressed and when the patient is in the recumbent position. The cause of pneumonitis, pulmonary fibrosis, and lung abscess is often difficult to determine. These are the first three in order of incidence of the pulmonary complications of cardiospasm. Tuberculosis also may be a complication of cardiospasm, but perhaps even more important is the fact that cardiospasm could exert an aggravating influence on an existing pulmonary tuberculosis. Pulmonary infiltration caused by aspiration may be mistakenly considered tuberculosis. Some patients with cardiospasm and associated pulmonary disease have spent time in tuberculosis sanatoriums before the correct diagnosis has been made.

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Experiments on Coronary Vasomotility. L. Binet and M. Burstein. Presse méd. **61**:1703-1705 (Dec. 25) 1953. (In French.)

The authors describe the mechanism of an experimental setup in which two dogs are used, one to supply arterial blood to the other in a closed double circulatory system through rubber tubes. These are connected by canulas to the left pulmonary artery and left subclavian artery of the donor and the external jugular vein and carotid artery of the recipient. The blood of both dogs is treated with heparin. By this means, a perfusion with constant output is achieved in the recipient dog, enabling many different studies to be performed. The authors studied the effects on coronary resistance of faradic stimulation of the stellate ganglion and vagus nerve, asphyxia, ischemia, and certain drugs. Augmented resistance, as evidenced by a pressure elevation in the irrigated vessels, was found to occur (1) by reinforcement of extravascular compression of the coronaries through strengthening of cardiac contractions (with epinephrine or excitation of the stellate ganglion) and (2) by constriction of the coronaries (with posterior pituitary hormone). Diminished resistance, as evidenced by a pressure reduction in the irrigated vessels, occurred (1) by release of extravascular compression of the coronaries through cardiac arrest (with vagal excitation), (2) by coronary dilatation with substances acting directly on the arterial wall (khellin, papaverine and aminophylline), (3) by coronary dilatation through augmentation of cardiac action (with epinephrine), and (4) by coronary dilatation due to asphyxia and ischemia.

Portal Hypertension. F. J. Jahnke Jr., C. W. Hughes and D. Campbell. U. S. Armed Forces M. J. **5**:21-26 (Jan.) 1954.

Members of the hepatic and gastroenterology sections of the medical service and the vascular section of the surgical service of Walter Reed Army Hospital have been cooperating in a comprehensive study of portal hypertension of both the intrahepatic and the extrahepatic types. The preoperative evaluation, operative approach, and long-term follow-up were conducted according to a standard procedure established after careful deliberation. Functional tests were made at biweekly intervals during the period of intensive preoperative medical management, and operation was delayed until the results indicated hepatic stability at the level of maximum improvement. A final base line was then obtained by daily repetition of the tests for one week just before the operation. Tests giving direct objective evidence were used for the most part in evaluating the degree of portal hypertension present before, during, and after operation. A direct end-to-side portacaval shunt utilizing the thoracoabdominal approach is considered the procedure of choice and was used in 25 of the 36 patients in this series. A splenorenal shunt was used in six patients in whom no adequate portal vein was available. Less desirable procedures, such as hepatic artery ligation or simple splenectomy, were used in five patients in whom it was impossible to establish a shunt. Comparison of preoperative with postoperative liver function showed a definite postoperative increase in hepatic dysfunction that was apparently proportional to the extent of anesthetic and operative trauma. Operations requiring two or three hours are followed by only mild liver depression lasting approximately four or five days; when five or six hours are required, the depression is pronounced and it may be a month before the hepatic function returns to the preshunt level. There was no apparent relationship between the severity and duration of the postoperative increase in dysfunction and the degree of preoperative liver impairment. Establishment of the shunts, which varied in diameter from 1.5 to 2.5 cm., resulted in a marked lowering of the portal pressures, which had ranged between 300 and 500 mm. of saline at operation. A drop amounting to more than 200 mm. of saline was secured in 80% of the patients, and in no case was the final reading above 280 mm. of saline, or less than the 300 mm. below which postoperative hemorrhage is considered unlikely. Effective portal decompression was also indicated by a lessening of the portal circulation time and the disappearance or reduction of esophageal varices. Two patients in whom the portal pressure had been reduced by an adequate shunt died in hepatic coma following the operation; of these, one was an extremely poor operative risk and was bleeding actively at the time of the intervention. Follow-up of the surviving patients for from two months to three years showed only two postoperative hemorrhages; both were mild and the patients have since gone two years without any further bleeding.

The Effect of ACTH Therapy upon the Course of Chronic Ulcerative Colitis. E. D. Kiefer and J. M. Elliott. Gastroenterology **26**:29-31 (Jan.) 1954.

Of 35 patients with ulcerative colitis in whom corticotropin (ACTH) was employed as an adjunct to therapy and who were followed for two years, 8 had severe, active, and extensive destruction of the colon associated with severe systemic symptoms; 5 had advanced and extensive organic changes in the colon with chronic diarrhea and debility, but the activity of the disease was in a state of remission; 8 with long-standing chronic colitis but with limited organic changes in the bowel, had an alarming exacerbation of severe systemic and colonic symptoms; 8 had active colitis of comparatively short duration with severe systemic symptoms; 6 had proctitis or colitis limited in extent and mild in degree. Twenty-three of the 35 patients were immediately improved by corticotropin therapy. The best clinical results with corticotropin were obtained in those patients in whom the disease was not too far advanced, but was active and giving rise to severe systemic reactions. Corticotropin was an aid in promoting a remission of acute symptoms such as fever, intractable diarrhea, and vomiting, and, when these symptoms were controlled, certain patients went on to a satisfactory remission under the usual supportive regimen. Corticotropin proved to be a valuable supportive measure for patients who obviously will require an ileostomy but are too severely toxic, exhausted, and debilitated to be acceptable surgical risks. Of the 23 who improved, 15 had a relapse and 8 remained well in apparent remission for two years. The recurrence rate of flare-up of the colitis seemed to be about the same as for patients who achieved a remission without the benefit of corticotropin. No material regression of the roentgenologic changes in the colon was observed that could be attributed to corticotropin. The inference, therefore, is that the hormone suppresses manifestations of the disease but does not reverse the fundamental disease process. A few patients enjoyed an uninterrupted remission while taking small doses of corticotropin over several months; corticotropin administration may be indicated as a sustaining measure much in the same way that corticotropin and cortisone are used in many cases of rheumatoid arthritis. Although corticotropin does not replace any of the established medical or surgical measures in the treatment of ulcerative colitis, it constitutes a powerful therapeutic tool with fairly definite indications and has an important place in the management of selected cases.

Development of Cancer in Chronic Ulcerative Colitis. J. A. Bargen, W. G. Sauer, W. P. Sloan and R. P. Gage. Gastroenterology **26**:32-37 (Jan.) 1954.

Of 1,564 patients who were less than 50 years of age when the diagnosis of ulcerative colitis was made at the Mayo Clinic, who were followed up for a year or more after that and who were free of malignant lesions for at least a year, 98 subsequently died from cancer of the rectum or colon. The observed deaths from malignant neoplasms of the colon were compared with expected deaths from malignant neoplasms in the general population. Results indicated that on the average the death rate from cancer of the rectum or colon among persons with ulcerative colitis is 30 times as frequent as that in the general population of the same age and sex. However, the authors' study showed that the typical patient with chronic ulcerative colitis was 31 years old at the time of his visit at the Mayo Clinic and that he had better than a 50% chance of living 25 years. This in no way indicates the advisability of early removal of the colon as has sometimes been suggested. Further studies of patients with severe, advanced, and recurrent ulcerative colitis are required to elucidate some of the fundamental tissue disturbances leading to the development of cancer.

Course of Infectious Hepatitis with Special Reference to Prognosis and Chronic Stage. E. G. Saint, W. E. King, R. A. Joske and E. S. Finckh. Australasian Ann. Med. 2:113-127 (Nov.) 1953.

One hundred twenty-three cases of infectious hepatitis were studied; 84 were acute, 34 active chronic, and 5 inactive chronic. Death occurred in five of eight fulminating cases, in which there were severe premonitory symptoms, bleeding manifestations, and intense jaundice followed by coma. Biochemical tests showed a high serum bilirubin level, early depression of the serum proteins, and positive results to cephalin flocculation tests. Autopsy and biopsy studies revealed widespread hepatic necrosis in the acute stage and residual hepatic fibrosis if recovery occurred. These patients were all of middle age, and in five cases an adverse environmental factor possibly accounted for the severity of the infection. Of 12 cases of relapse or delayed resolution, an adverse external factor was present in 9. Early ambulation was the commonest. These patients had a higher gamma globulin level than was found in the "classical" cases. Clinical, biochemical, and histological studies showed good correlation with the activity of the disease and the prognosis. The prognosis was good, although in a few cases the condition became chronic. Active chronic infectious hepatitis followed acute attacks or had an insidious onset. Adverse environmental factors were unusual. The biochemical characteristics were positive responses to flocculation tests and hyperglobulinemia affecting especially the gamma globulin. Liver biopsy showed active inflammatory change in the liver, and the findings correlated well with the clinical and biochemical findings. The prognosis was poor; 18 patients died in hepatic coma or after gastrointestinal hemorrhage. In a few the condition became inactive, and their biochemical picture reverted to normal. Inactive chronic infectious hepatitis is residual hepatic fibrosis following earlier acute or chronic infectious hepatitis. It was characterized by hepatosplenomegaly, portal hypertension, and recurrent gastrointestinal hemorrhage. Liver function tests gave normal results, and biopsy showed fibrosis without inflammatory activity. The prognosis depended on the degree of portal hypertension present. The management of infectious hepatitis is discussed in detail. The importance of diet and rest in the acute stages is stressed. In fulminating cases the danger of laparotomy is emphasized, and the roles of parenteral therapy including blood transfusion and the giving of antibiotics are outlined. In active chronic cases, treatment is symptomatic. Ascites is controlled by salt restriction and mercurial diuretics. Paracentesis abdominis is avoided. Frequent blood transfusions are necessary. Chlortetracycline (Aureomycin) may be of value. Pregnancy is contraindicated. Factors affecting the course of the disease are discussed. In acute cases pregnancy, malnutrition, early ambulation, and old age worsen the prognosis. Chronic hepatitis is most frequent in women at the beginning and end of reproductive life, and it is postulated that an anomaly of antibody response related to steroid metabolism is involved, as well as the effects of age on biological response to infection. Environmental factors appear to be of less importance in these cases.

Oral Complication of Sprue: Report of a Case. I. F. Ross. Oral Surg. 7:55-59 (Jan.) 1954.

Ross presents the history of a woman, aged 28, who showed advanced destruction of the periodontal tissues that could not be explained on the basis of local factors alone. She had had sprue-like symptoms for about three years. The author feels that, in trying to understand the effect of sprue on alveolar bone and other periodontal structures, the following points should be considered: 1. The loss of large amounts of calcium, combined with fatty soaps in the feces, has an effect on the calcified inorganic constituent of alveolar bone. 2. Poor intestinal absorption of fat-soluble vitamins (A and D) produces rarefaction of the alveolar bone. 3. Lack of absorption of vitamin C due to inflammation of the intestinal mucosa results in degeneration of the collagen of the gingival stroma. 4. Hypoproteinemia may affect the protein matrix of bone and the intercellular substances of the gingival connective tissue. 5. Moderate local stresses on a periodontium, which is weakened by a severe chronic systemic involvement, may have exaggerated effects.

Control of Ascites in Hepatic Cirrhosis. M. Atkinson, A. Paton and S. Sherlock. Lancet 1:128-130 (Jan. 16) 1954.

According to Atkinson and co-workers ascites in cirrhosis of the liver results from the combination of a raised portal venous pressure and a lowered serum albumin level. Sodium is retained in the body as ascites accumulates, and urinary sodium excretion is extremely low, most of the dietary intake passing into the peritoneal cavity. Although sodium retention is probably not a primary factor in the production of ascites, dietary sodium restriction will control the accumulation of fluid. The ascites can be still further reduced by increasing the urinary excretion of sodium by means of mercurial diuretics, supplemented, if necessary, by ammonium chloride. The four case histories presented illustrate the success of a low sodium diet in conjunction with mercurial diuretics and ammonium chloride. With this regimen abdominal paracentesis is avoided and removal of protein from the body in the ascitic fluid is obviated. This is an important factor in a patient who is unable to synthesize albumin. The state of nutrition improves, and there is a rise in the serum albumin level.

Clinical Follow-Up Study of 398 Patients Suspected of Having Lung Cancer Discovered in Boston Chest X-Ray Survey. J. M. McNulty. New England J. Med. 250:14-17 (Jan. 7) 1954.

The paper presents findings of a detailed follow-up study of the clinical records of 398 patients suspected of having lung tumor by a roentgenologic review board that interpreted the films of 536,012 persons. There were 39 cases (9.8%) of proved bronchogenic carcinomas among a total of 398 persons in whom tumor was suspected. Recent studies of the 39 patients with primary carcinoma show that 22 had undergone resection and that of these 5 were alive and apparently well three years after the date of the original survey film. The author feels that the two chief questions raised by this analysis are whether the carcinomas discovered are more curable than those encountered in ordinary practice and whether they can be turned up in sufficiently large numbers to warrant consideration of the mass chest survey as a practicable means of control of pulmonary cancer. This chest survey was directed primarily against tuberculosis and the tremendous expense of conducting it must be charged against the control of that disease. A single survey, although it may provide useful information, can have no significant effect on the control of lung cancer. To be effective and to detect new early lesions as they develop, it must be repeated indefinitely at intervals of not more than four or six months. Unless it is reasonable to expect repeated surveys directed at tuberculosis at such intervals, the entire staggering cost of such a program will have to be charged against the effort at cancer control. In the light of these considerations, the result of this study can hardly be considered as anything but discouraging. The discovery of 39 primary cases of lung cancer in 536,000 persons surveyed—a little less than 1 in 14,000—is low. Of even greater significance is the fact that of 22 patients undergoing resection only 5 were well at the end of this follow-up period. Equally discouraging is the fact that almost half the lesions found could not be resected so that the survey did not uncover the disease in a significantly earlier phase than that seen in ordinary practice.

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Extreme Insulin Resistance in Diabetic Coma: Report of Fatal Case of Juvenile Diabetes Treated with 7,555 Units of Insulin in 45 Hours. W. Rose, R. Kaplan and H. N. Picard. Diabetes 2:462-464 (Nov.-Dec.) 1953.

A fatal case of juvenile diabetes, with acidosis and coma, in a 9-year-old boy is described in which reduction of blood glucose from 776 to 186 mg. per 100 cc. occurred only after administration of 7,555 units of insulin over a 45 hour period. Because a negative urinalysis had been obtained two weeks before the patient's admission to the hospital and because of the misleading combination of abdominal symptoms and signs with high leukocytosis at the time of admission, diagnosis was delayed by almost a day. The patient was dying when attempts were made to overcome the dehydration, restore electrolyte balance, and correct the hyperglycemia. Prolonged, severe acidosis and terminal changes in metabolism appeared to be

the major factors involved in this case. Since the child received almost all insulin by the intravenous route poor absorption could not have been a factor. While it may be argued that the fall in blood glucose was a terminal phenomenon and unrelated to insulin administration, such a fall is not usual in untreated diabetic acidosis. A cause and effect relationship between cumulative insulin and the eventual drop in blood sugar is more probable. The dangers inherent in the use of the great amounts of insulin given to the patient were fully appreciated, but at the same time the need for heroic measures was obvious. Although the primary objectives of reexpansion of the extracellular fluid volume, restoration of electrolyte balance, and reduction of hyperglycemia seem to have been substantially attained, the success achieved was chemical only and too late to prevent the death of the boy in shock, anuria, and azotemia.

Hyperkalemia in Nephritis. P. Vallery-Radot, C. Laroche, J. Hazard and others. Presse méd. **61**:1706-1708 (Dec. 25) 1953. (In French.)

Hyperkalemia is frequently seen in the terminal stage of renal insufficiency, in both acute and chronic nephritis. There is no strict parallel between retention of nitrogenous bodies (urea, creatinine, and indoxyl) and potassium elevation. The amount of potassium in the blood is influenced by, or associated with, various factors, including urinary output, diet, cellular destruction, and variations of the other electrolytes. Variations in kalemia cannot, therefore, be used to follow the development of renal insufficiency as can variations in nitrogenous bodies. Hyperkalemia is, however, a very serious symptom and has innately unfavorable potential consequences, particularly for the cardiovascular system.

Some Observations on Tetanus. F. Beare. M. J. Australia **2**:949-953 (Dec. 26) 1953.

This report is based on the study of 58 cases of tetanus under Beare's observation at the Royal Adelaide Hospital, where, since 1946, all patients with tetanus, or supposed tetanus, were placed under the care of the same physician so that uniformity of treatment would result. Diagnosis was made mainly on clinical grounds. Trismus, rigid abdominal muscles, dysphagia, and sweating are the commonest features during the early stage of the disease. The patient should be nursed in a quiet, darkened room by experienced personnel who realize that the patient should be protected from all unavoidable sensory stimuli. The number of injections, of visits by the medical attendants, and of ministrations by the nurses should be as few as possible. Overzealous treatment leads to more spasms and exhaustion, one of the main causes of death in this disease. Fluids should be given to avoid dehydration from sweating. If oral intake is inadequate, intravenous drip administration can be tried. A dose of tetanus antitoxin regarded adequate for the whole course of the disease was given on admission and not repeated unless it seemed necessary. An effective "cover" lasting for several days is enough to neutralize any fresh toxin produced and circulating in the blood. As a basic dose 100,000 I. U. was given intramuscularly with 100,000 units by the intravenous route. The antitoxin was not given intrathecally. Every patient was tested for sensitivity and this phenomenon was found in about one-sixth of them. About 0.2 cc. of tetanus antiserum was injected intradermally. If no weal developed within 10 minutes, the patient was regarded as being insensitive to tetanus antiserum. If a weal developed, a further 0.2 cc. was given subcutaneously, then 0.4 cc. subcutaneously after 20 minutes, and then the remainder of the dose intramuscularly after a further 20 minutes' wait. The intravenous dose, if any, was given slowly immediately after this. No immediate reaction occurred, but 31 of 39 patients, who lived long enough, had a delayed reaction, usually consisting of a widespread, itchy rash occasionally accompanied by pyrexia, effusion into the joints, edema, and loss of tendon reflexes. Subcutaneous administration of epinephrine alleviated the rash. The wound causing the tetanus was dealt with after the administration of the antitoxin, the reasoning being that antitoxin should be available to counteract any toxin set free by the surgical interference with the wound. Penicillin was used to inhibit the growth both of Clostridium tetani and of the other organisms found in a "dirty" wound. Sedatives of the barbiturate group were used. Mephenesin (Myanesin) was employed as a muscular relaxant. Respiratory embarrassment can be avoided by tracheotomy, which in some instances may be a lifesaving procedure. The mortality rate was 31%. A plea is made for early passive immunization with tetanus antiserum and for active immunization with tetanus toxoid. The duration of the incubation period is not a reliable prognostic guide. Examples of hemoglobinuria following mephenesin therapy, a second attack of tetanus, and tetanus of aural origin are recorded.

On the Treatment of Pulmonary Tuberculosis: Immobilization or "Immobilism"? R. Benda and F. Franchel. Presse méd. **62**:1-3 (Jan. 2) 1954. (In French.)

Immobilization or complete bed rest is invaluable in the treatment of all forms of pulmonary tuberculosis, but it should not be allowed to turn into "immobilism," by which the authors mean excessive temporization or inaction. Treatment should be designed to shorten the period of illness. Bed rest prolonged throughout a whole year cannot be considered progress; in addition to the dangers of a purely medical character to which it may give rise, the delay in deciding on the next step in therapy often has an adverse effect on the patient's morale and on his economic position. Many patients who have had to undergo a pneumothorax because of relapses two or three years after they had apparently been cured by a regimen of strict rest and antibiotics would have been spared a useless and even injurious loss of time if collapse therapy had been instituted at the proper moment. The chronic pleural suppurations and other severe complications often responsible for the postponement of pneumothorax in the past can now be avoided by the preoperative use of antibiotics and a more careful selection of patients. Surgical excision of tuberculomas, which are often hard to distinguish from other types of round foci, should not be undertaken until the diagnosis has been clearly established; a trial period of rest and antibiotic therapy supplemented by a pneumothorax will not interfere with their successful removal later and may render it unnecessary. The authors advocate a similar initial period of strict bed rest and antibiotic therapy, using a combination of streptomycin, *p*-aminosalicylic acid, isoniazid, and sulfonamides, for patients in whom the disease is mild or moderate with an ulcerative tendency. The initial period, lasting for approximately six weeks, or two months at the most, is followed by a period of modified rest during which maintenance doses of isoniazid and sulfonamides are continued but streptomycin and *p*-aminosalicylic acid are suppressed. The length of the maintenance period is determined by the degree of pulmonary stability secured as a result of the initial treatment; if the radiographs show no progression and the cultures are consistently negative, the patient is allowed to resume an almost normal life under strict medical supervision after two months of maintenance, but when stability is uncertain the maintenance treatment is continued for three months before an increase in activity is permitted. Any tendency toward progression in mild cases, especially if Koch's bacilli are detected, is an indication for the immediate institution of collapse therapy. Patients with persistent moderate disease should be subjected to collapse therapy or resection according to the character of the lesions; if resection is decided on, a period of three or four months of rest before and six months after the intervention should prove adequate in most cases.

Conservative Treatment of Tuberculous Spondylitis. K. Bremm. Deutsche med. Wchnschr. **79**:103-106 (Jan. 15) 1954 and **79**: 146-153 (Jan. 22) 1954. (In German.)

Although tuberculous spondylitis is not rare in adults, there is a definite predilection for it in children. The lumbar and lower thoracic vertebrae most frequently are affected. For many decades conservative treatment of tuberculosis spondylitis was practiced with satisfactory results at the orthopedic pediatric clinic in Süchtela (Lower Rhine province of Germany). The principal elements in the treatment are open air, sun irradiation, adequate nutrition, continued immobilization, and chemotherapy. High altitude is not essential for open air, sun irradiation treatment, but the architecture of the hospital must

allow for a continued sojourn of patients in open air. As much as possible of the total cutaneous surface of the body should be exposed to the sun rays, while direct exposure of the focus of the disease to the sun is of less importance. A balanced diet is best, and sufficient supply of vitamins should be provided during the winter months. In order to remove the load from the vertebral bodies, immobilization of the vertebral column in reclining position is essential during the acute stage of the disease. A plaster of paris cast, so-called "gypsum bed," serves this purpose best. Any paravertebral padding or even fenestration over the spinous processes must be omitted; only small felt pads at the level of the disease process should be glued in the cast to prevent gibbus. Placing the patient with his face down makes immobilization more difficult and did not prove effective. A so-called roller-gypsum bed may be used for special cases with progressive formation of gibbus and with manifestations of paralysis. With the patient hanging in a Glisson's sling, the plaster cast is mounted on a frame with casters and this frame is placed on an inclined plane. A permanent pull is exerted on the vertebral column according to the body weight and the angle of the inclined plane. The gypsum bed is replaced by a short plaster corset when the disease is no longer acute. A simple plaster corset is used for the lumbar portion of the vertebral column; in involvement of the lower lumbar and sacral portions of the vertebral column this corset is supplied with one or two leg parts coming down near to the knee joint, while, for involvement of the cervical and thoracic portions, a corset with a four bar head support is used. Leather corsets are used in the stage of satisfactory healing. Amithiozone (Conteben) and *p*-aminosalicylic acid proved ineffective in the treatment of closed forms of bone and joint tuberculosis. Rapid and permanent improvement was obtained with parenteral administration of streptomycin in total doses of 40 to 60 gm. (0.5 to 1 gm. daily) in tuberculosis forming fistulas. Isoniazid (Neoteben) seems to exert an effect similar to that of streptomycin. The conservative treatment of tuberculous spondylitis requires on the average three to six years and hospitalization for the first three years, thus calling for patience on the part of the physician and the patient. Patients must be continuously encouraged. Thirteen per cent of the author's patients became self-supporting.

SURGERY

Indications for and Results of Surgical Treatment of Cirsoid Aneurysms and Arteriovenous Aneurysms of the Brain: Based on 19 Cases of Which 14 Were Treated by Ablation of the Lesion. D. Petit-Dutaillis and G. Guiot. Presse méd. **61**:1719-1722 (Dec. 25) 1953. (In French.)

In a group of 14 patients treated by surgery for cirsoid or arteriovenous aneurysms of the brain, there was no operative mortality. Results, as judged by a follow-up of from eight months to four years, were excellent in eight patients, good in three, poor in one, and transitory in two. The authors feel that surgical extirpation of the lesion is the best form of treatment, in view of the good results obtained by them and other neurosurgeons and particularly considering that the danger of blood loss in difficult cerebral surgery has been greatly reduced by the use of ganglion-blocking agents. Radiotherapy, the only method advocated for treatment in the past, is not very satisfactory and should no longer be used except in exceptional cases of aneurysms that are too deeply situated to be accessible. Ligature of the carotid artery or of the vessels supplying the aneurysm is rarely effective because of the abundance of anastomoses, and ligating the carotid artery is especially dangerous to these patients.

Surgical Treatment of Carcinoma of the Esophagus and Cardia: Analysis of 457 Cases. J. H. Garlock and S. H. Klein. Ann. Surg. **139**:19-34 (Jan.) 1954.

The authors think that there is no justification for the prevalent negative attitude toward surgical treatment of carcinoma of the esophagus and cardia. They suggest that the statistics showing poor results of this surgery are unrepresentative because, in them, cases treated both palliatively and curatively are lumped together. In their 16 year experience with 457 patients, the authors used a rigid policy of undertaking resection only in those cases in which a cure might be obtained. Fifty-six of these patients were not subjected to surgery for various reasons; of the remaining 401, 214 had squamous cell cancers of the esophagus and 187 cardial adenocarcinomas. Operations were performed in 92 (42.9%) with squamous cell tumors and in 89 (45.4%) with adenocarcinoma of the cardia. The operative mortality was considerable, but improved over the years with increasing experience, better anesthetic methods, and the advent of antibiotics. The Torek operation was done in the early days of this study. One (16.6%) of the operative survivors is alive and well 16½ years after operation. In the group of lower third esophageal cancers, which were treated by infraaortic anastomosis, 41.6% of the operative survivors lived more than five years. The longest postoperative survival was 14 years. In the group with middle and upper third cancers in which the supra-aortic anastomosis was used, only four survived operation over five years before the time this paper was written. None survived five years. The over-all five year survival rate of patients operated on for cancer of the esophagus, excluding operative deaths, was 27.2%. Adenocarcinoma of the cardia presents a different problem in relation to routes of spread. The five year survivals totaled 30 patients, 16% of whom were alive and apparently free of disease at the time of this paper. The longest survival was 13 years. This study demonstrates the impact of lymph node involvement on the survival rate; most of the survivors showed no lymph node spread. An attempt must be made to discover cancer of the esophagus or cardia before it becomes far advanced with extensive metastases. Dysphagia, the symptom usually leading to surgery, is a late one, and it would be desirable to see the patient before this stage.

Recurrent Cancer of Breast: Frequency, Distribution, and Mortality. M. B. Shimkin, E. L. Lucia, B. V. A. Low-Beer and H. G. Bell. Cancer **7**:29-46 (Jan.) 1954.

In a previously published study of cancer of the breast in women seen at the University of California Hospital and Clinics, patients with recurrent carcinoma of the breast had been excluded. The present communication is an analysis of these cases of recurrent carcinoma, as well as of a group of women who were treated with radical mastectomy at the University of California Hospital for primary cancer of the breast and in whom recurrent disease subsequently developed. The first group comprised 261 women, who were first seen with recurrence at the University of California Hospital during the 30 year period from 1918 to 1947, inclusive. This group included a large number with late recurrences, 19% having been seen 5 years or longer, and 7% 10 years or longer, after initial operation. The total survival of this group at five years after operation was 34%. In a selected group of 28 patients who had been subjected to radical operation 10 were apparently free of disease 5 to 24 years after reoperation. The data concerning 261 recurrent cases were compared with data concerning 372 cases of primary carcinoma in which subsequent recurrences or metastases developed. It was shown that the length of survival in the latter cases depends on the stage of the disease at initial operation and on the type of initial clinical recurrence. The five year survival measured from initial operation of patients, who eventually die of or with cancer of the breast, is 36% in stage 1, 20% in stage 2, and 9% in stage 3. There was no relationship between length of survival and the age of the patients at the initial operation. The data do not reveal significantly greater proportions of rapidly growing neoplasms among young than among older patients. The time after operation at which recurrences are clinically manifest is influenced by the stage of the disease at initial operation. In stage 1, the median period for recurrence is at 30 months; for stage 2, at 21 months; and for stage 3 at 12 months. Local recurrences and generalized metastases limited to the osseous system become evident clinically at 27 months. The length of life after recurrence is influenced to a minor degree by the stage of the disease at initial operation but is significantly influenced by the type of recurrence. In stage 1, such mean survival is 19 months, whereas in stage 2 and stage 3 it is 13 months. With local recurrence the survival is 28 months, with osseous metastases it is 24 months, and with generalized metastases it is 10 months.

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Fourteen Years' Experience with Cardiopexy in Treatment of Coronary Artery Disease. S. A. Thompson and A. Plachta. J. Thoracic Surg. **27**:64-72 (Jan.) 1954.

A 14 year follow-up is presented of 57 patients with coronary artery disease who underwent cardiopexy, an operation used to increase the blood supply of the myocardium. The operation consists of removing a portion of the fifth costal cartilage on the left side of the chest. At this side the pleura is not entered. The pericardial sac is opened, the pericardial fluid is aspirated as completely as possible and from 2 to 4 drams of dry magnesium silicate powder is spread widely over the surface of the myocardium. The tissues are then closed in anatomic layers without drainage. It is a simple operation and requires about 30 minutes for its performance. Deaths attributed to the operation and all hospital deaths after the operation numbered seven, an operative and hospital mortality of slightly more than 12%. Of the remaining 50 patients who had been followed up to the present time or the time of their death, 37 were men and 13 were women. The average age of the entire group was 51 years, and most of the patients were in the sixth decade. The 33 (66%) patients who are living at the present time averaged symptoms for two and three-quarter years before the operation, while the 17 patients who have died averaged symptoms for four and one-half years before the operation. In 37 patients anginal pain occurred as the first symptom and coronary occlusion was the first symptom in 13. Three of the patients had congestive failure, and seven had hypertensive disease. The shortest length of life after the operation was two months and the longest is now over 14 years, with an average of a little more than 5 years. For a group of patients who were medical failures, cardiopexy has produced most satisfactory results. It should be emphasized that almost all of the patients were terminal cardiac cases and more or less completely incapacitated. Few of them were satisfactory surgical risks. As a result of the operation the authors were able to rehabilitate these patients so that 45 (90%) of them were improved more than 50%, and 20 (40%) are more than 75% improved. In addition to their physical improvement, the average span of life of the patients who later died was nine and one-half years from the onset of the first symptoms. The authors do not believe that these patients would have survived this length of time without the operation.

Experiences with Segmental Resection in Pulmonary Tuberculosis. E. Derra and H. Rink. Wien. med. Wchnschr. **104**:72-78 (Jan. 23) 1954. (In German.)

Segmental pulmonary resection according to Overholt, Woods, and Ramsay's technique was performed on 67 men and 41 women with pulmonary tuberculosis. Of the 108 patients, 31 had the exudative (nodular) type of the disease and 77 the cavernous type. On discharge from the hospital, 102 patients had recovered clinically and roentgenologically and their sputums had become negative; one patient's sputum had remained positive. Four patients became worse, and one patient died. Postoperative complications occurred in 12 patients; severe hemoptysis occurred in one, hemothorax in 3, contralateral dissemination with pleurisy in 2, homolateral dissemination in 2, empyema in one, empyema and internal fistula in 2, perforation of a colonic ulcer in one. Eight of these 12 patients recovered. The authors agree with the statement issued by the American Trudeau Society that residual necrotic lesions after treatment by combined chemotherapy for prolonged periods either alone or in association with temporary collapse therapy should be resected. Patients with the nodular form of pulmonary tuberculosis in its initial stage should be subjected to resection when after prolonged observation a malignant course of the disease may be assumed because of the occurrence of new small foci adjacent to the older ones with a tendency to enlargement by confluence or appositional growth. Tomography may be of considerable aid in detecting these lesions in their early stages. Segmental resection is indicated in patients with the cavernous type of the disease in the presence of segmentally localized cavities without extensive dissemination and with the remaining pulmonary parenchyma functionally unimpaired, and particularly in those patients with relatively recent and limited processes and consequently with satisfactory defense powers. These processes are primarily limited to the apicodorsal upper lobe segments; they are mostly infraclavicular, but may also be parahilar. Isolated solid circular lesions and tuberculomas, respectively, present another indication for segmental resection. Segmental removal of the blocked caseous focus should be carried out simultaneously with decortication in cases of rigid collapsed lungs. Besides these absolute indications for segmental resection, there are relative ones such as a residual cavity after thoracoplasty, but a higher incidence of surgical complications may be associated with them. Adequate aftertreatment will prevent functional deficiency of the remaining pulmonary segments.

Experience with Commissurotomy in Mitral Stenosis. P. Valdoni and L. Provenzale. Chir. torac. **6**:261-276 (Aug.-Oct.) 1953. (In Italian.)

A follow-up was made of 100 patients, 34 men and 66 women, in whom commissurotomy was performed for mitral stenosis. The patients' ages ranged from 10 to 55 years. The cause of the disease was undetermined in 20 patients, and in the others it was ascribed to either acute or subacute articular rheumatism, recurrent tonsillitis, chorea minor, or scarlet fever. On the basis of clinical and laboratory findings and the phase of the disease, the patients were divided into four groups according to Bailey's classification. This grouping proved valuable in that there were 14 deaths among the patients of the last two groups but none among those of the first two. Finger dilatation was sufficient in all but six patients in whom the dilatation had to be performed instrumentally. Instrumental dilatation becomes necessary in only about 10% of patients undergoing commissurotomy for mitral stenosis. Contraindications to commissurotomy are active rheumatic fever, severe right heart decompensation and myocarditis, associated mitral and aortic insufficiency when the latter is greater than the stenosis itself, advanced pulmonary sclerosis, and mild mitral stenosis with scarce hemodynamic alterations. Atrial fibrillation, previous embolisms and left atrial thrombosis, and cardiac dilatation increase the operative risk and minimize the chances of good results. The follow-up showed 33 patients cured, 45 improved, 7 in stationary condition, one in an aggravated condition, and 14 deaths. The commonest causes of death during or immediately after the operation (5 patients) were cardiac arrest and hyposystole. Death during the recovery period was caused by peripheral arterial embolism, pulmonary embolism, cardiac insufficiency, and bronchopneumonia. The authors' experience with these patients indicated that the beneficial effects of commissurotomy become evident only several months after the intervention. This was confirmed by their findings in 12 of the patients who were followed for more than two years. Five were found cured after six months. One year after the intervention the number of these patients had increased to six, and two years after to seven. They ascribe this slow and progressive recovery to a slow return to normal of the pulmonary circulation.

Current Status of Cortisone in Postoperative Treatment of Dupuytren's Contracture. H. Bernstein. New York J. Med. **54**:90-92 (Jan. 1) 1954.

Dupuytren's contracture has been described as an early manifestation of an enzymatic breakdown in the metabolism of ordinary collagen tissue resulting in a proliferation of fibroplastic elements and a laying down of collagen that contracts excessively and loses its elasticity. The disease appears mostly in middle-aged and elderly men and is associated with rheumatism, often in the form of gout, in from 60 to 84% of cases, suggesting the presence of focal sepsis. The effect of cortisone in relieving and relaxing connective tissue contractures in other collagen diseases made it seem probable that patients with Dupuytren's contracture might also respond to this form of therapy. Reports of 14 cases found in the literature and experience with one additional case presented by the author show that cortisone gives gratifying results when administered postoperatively. It exerts a restraining effect on the formation of fibrous tissue and often leads to the resolution of scar tissue already formed. It may be given immediately after surgical

treatment with little fear of delayed epithelial union. Increased mobility is constantly seen in the joints of the affected hand within two weeks of treatment, and the improvement continues and is often further augmented for periods of more than a year after cortisone is withdrawn. The average dose in all cases was 100 mg. daily for two or three weeks. Oral and parenteral administration are both equally effective, and improvement may be expected even though cortisone is not given until several months after the operation. No toxic reactions have been noted, and no other form of postoperative treatment is needed.

Intermittent Pyloric Closure by Large Gallstone. F. Kümmerle and W. Dietz. Zentralbl. Chir. **78**:1438-1442 (No. 34) 1953. (In German.)

If in chronic relapsing gallstones attacks a previously palpable tumor disappears suddenly and the pains subside, a perforation into the gastrointestinal tract may be assumed. Only rarely, however, will it be possible to prove this, because frequently the stone will be eliminated through the intestinal tract. Other calculi may produce gallstone ileus, usually in the lowest loop of the ileum, after intervals varying from days to years. The perforation of biliary calculi into the stomach is very rare. The patient described in this paper was a woman, aged 65. In November, 1952, a sensation of pressure developed in the region of the stomach and on Dec. 6 she experienced an attack of acute pain, which was severest in the left side of the back and then spread through the upper abdomen. Since then, the patient had poor appetite, occasional attacks of vomiting, extreme discomfort when lying on the right side, which lessened greatly when she turned to the left side or on her back. Roentgenoscopy of the stomach with the aid of a contrast medium disclosed a defect the size of a walnut. Foreign bodies or bezoars could be ruled out after the woman had been questioned. An intragastric pedicled tumor was thought of and an operation was performed, which disclosed an inflamed, contracted gallbladder, adherent to the duodenum. The gallbladder was removed, and the site of perforation at the posterior wall of the duodenal bulb was sutured and covered with omentum. A barrel-shaped gallstone, with an articular surface on one side, was found inside the stomach. It must have been the cause of the intermittent valvular closure of the pyloric aperture of the stomach. After the operation a Müller Abbot tube was introduced, but intestinal atony together with cardiac and circulatory failure caused death on the third day after the operation. Necropsy disclosed another barrel-shaped gallstone with an articular surface in the ileum. It is assumed that the two gallstones perforated into the duodenum and that peristaltic movements drove one from the duodenum into the small intestine and the other one retrograde into the stomach, this latter one producing intermittent closure of the pylorus that necessitated the operation.

Empiric Use of Gastric Resection in Treatment of Upper Gastrointestinal Hemorrhage. E. T. Thieme. Surgery **35**:56-61 (Jan.) 1954.

According to Thieme, there is no general agreement in which cases of upper gastrointestinal hemorrhage conservative nonoperative or surgical treatment are indicated. Early and adequate blood replacement has reduced the mortality of both. Most reports suggest that there are cases in which emergency surgery is essential for survival. The author offers no advice about the selection of patients for surgery, but advocates the use of gastric resection once the decision to operate has been reached. Opinions vary about the extent to which preoperative studies should be made to establish the cause of the bleeding. Some feel that surgery should not be undertaken without good proof of peptic ulceration. Other authors feel that these patients are in no condition to undergo gastrointestinal x-ray examinations, and normal gastrointestinal roentgenograms taken after the bleeding has stopped have been reported in a high percentage of cases. The author reviews observations on 11 patients who were operated on in a three year period because of uncontrolled gastrointestinal hemorrhage. A gastric ulcer was found in four cases, a duodenal ulcer in three cases, and no lesion was found in four cases. In such cases gastric resection is advocated without gastrotomy to prove a bleeding point, because gastrotomy prolongs the operation in a poor risk patient and frequently fails to show the bleeding point. The decision to operate on any of the 11 patients, and specifically in the four cases described, may be questioned. It can only be stated that in each instance the situation seemed desperate and the prognosis poor without surgical intervention. Once the decision to operate had been made, the decision for gastric resection without demonstrating the bleeding point would seem to have been justified by the pathological condition that was demonstrated. Also, this decision would seem to be the logical answer to the situation in which no lesion is palpated in the stomach or duodenum.

The Cornpicker Hand. E. S. Maxim, F. S. Webster and D. A. Willander. J. Bone & Joint Surg. **36-A**:21-29 (Jan.) 1954.

The "cornpicker hand" is an injury that results from catching the hand in the mechanical cornpicker. The cases discussed here were selected from 28 treated by the authors over the past few years. Almost all cornpicker hand injuries represent a combination of lacerations, crushing, avulsion, and friction burns. They are dirty wounds, and at first it may not seem feasible to salvage any portion of the hand. However, it is best to be somewhat conservative in the primary débridement. The authors suggest that as a first aid measure the hand simply be wrapped in a sterile pressure dressing. Since hemorrhage is not very extensive in most cases, shock is usually absent; however, neurogenic shock may exist in those who have sustained prolonged trauma. Roentgenograms are taken without disturbing the dressing. The patient is taken to the operating room and given a general anesthetic if at all possible; otherwise a brachial block is used. The use of a tourniquet is avoided to better judge the status of circulation, but a tourniquet is placed in position on the arm in case it is needed. The skin injuries about the wound are cleansed. Ether is used to remove grease, and the dirt is removed by scrubbing with soap. The wounds are then irrigated with isotonic sodium chloride solution. Débridement is carried out, but if there are areas of questionable viability in the soft tissues, these may be left undisturbed for a few days and watched. Repair of tendons and other deep structures is usually not performed at this time because of potential infection. Primary closure may be attempted, but length of the digits is never sacrificed to facilitate primary closure; rather a split-thickness skin graft is applied, either immediately or a few days later. Compression dressings will reduce postoperative edema. At the time the split-thickness skin graft is applied it can be estimated what pedicle graft will eventually be necessary. A tube pedicle is formed on the anterior abdominal wall immediately or a flap is raised for a smaller area. This saves time, because the tube will then be ready for attachment when the hand is ready to receive it. In reconstruction of these severely injured hands the same principles apply as are followed in other forms of trauma. In many cases it may be important to create a cleft in the hand to form a pinching surface between the thenar and hypothenar areas or to increase the function of grasp between remnants of a digit and the thumb. This is done by the removal of one or more metacarpals. In hands in which there has been a loss of the thumb with the digits remaining, transposition of the index finger is a satisfactory procedure. There may be cases in which some type of prosthesis would be helpful in gaining further function of the reconstructed hand. Unfortunately, most limb makers do not design a prosthesis that utilizes the wrist motion. The patient and the surgeon both may become impatient and decide on an amputation in the forearm. The authors deplore this and feel that the possibilities of hand prosthesis have not been adequately explored.

Surgery and Peptic Ulcer: An Assessment of Its Present Status. R. M. Walker. Practitioner **172**:125-130 (Feb.) 1954.

Walker felt that general practitioners were best qualified to assess the value of surgical treatment for patients with peptic ulcer, because they observe these patients for the rest of their lives. He invited four general practitioners, all with large practices—three in towns and one in the country—to give their impressions of this problem. All agreed that, since partial gastrectomy became more widely practiced, the surgical treat-

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ment for peptic ulcer seems to be very satisfactory. Walker himself comments on the indications for and type of surgery and the risks involved. Operation carries a small but definite risk. On account of the postgastrectomy syndrome, some patients cannot return to their occupation for months after their operation, and a few have persistent symptoms that leave them no better, or perhaps worse off, than they were before. These cases prevent surgeons from becoming complacent. Nevertheless, surgical treatment plays a big part in the treatment of peptic ulcer; practically all its complications, such as acute perforation, hemorrhage, obstruction, and suspicion of malignancy, require surgical management, and, in the uncomplicated cases, which are not cured by adequate medical treatment, surgical treatment offers a good prospect of complete relief of symptoms at very small risk. Although the removal of the greater part of an organ like the stomach is a mutilating procedure, the patient who is relieved of his symptoms does not regard it as such.

NEUROLOGY AND PSYCHIATRY

Medulloblastoma. M. Salas M. Bol. méd. Hosp. inf., Mexico. **10**:615-648 (Dec. 1) 1953. (In Spanish.)

Medulloblastoma is a cerebellar tumor of children. It originates in the vermis cerebelli or in the roof of the fourth ventricle, spreads rapidly to the structures in its proximity, and gives metastases through the ventricular system and the subarachnoid space. It is highly malignant and extremely radiosensitive to total roentgen irradiations on the brain and spinal cord. An exact diagnosis is made by an exploratory operation and verification of histological specimens. From 1943 to 1953 the author observed 15 cases in 8 boys and 7 girls. Most of the patients were between the ages of 1½ and 5 years. The tumor originated in the vermis cerebelli in 14 cases and in the right cerebellar hemisphere in one case. It had progressed to the cerebellar hemispheres in one case and to the base of the brain and the optic chiasm in another. Distant metastases to the dorsal segment of the spinal cord were observed in one case. Clinical symptoms of intracranial hypertension, of internal hydrocephalus, and of cerebellar lesions were observed in all cases. Roentgen signs of intracranial hypertension were also observed in all cases. Symptoms of meningeal irritiation were observed in five cases. A clinical diagnosis of tumor of the posterior fossa was made in all cases but one, in which the diagnosis was of tumor in the frontal lobe. The period of evolution of the tumor prior to admission of the patient to the hospital was of three months on an average. One patient died before the operation, two during the operation, five a few hours after it, four survived a few days, and three survived for a period of two, six, and nine months, respectively, after the operation. In all cases the postoperative period was stormy. Two of the three patients who were discharged at the request of the parents were in grave condition. The other patient was apparently improved. He could not be observed after he was discharged. Twelve patients died in the hospital, six from surgical shock, four from herniation of the cerebellum into the foramen magnum, one from hemorrhage of the ventricular system, and one from suppurative meningitis.

Prognosis of Depression Treated by Electric Convulsion Therapy. H. F. Jarvie. Brit. M. J. **1**:132-134 (Jan. 16) 1954.

Of 114 consecutive psychiatric inpatients between the ages of 21 and 78 years, but most of them aged 50 or over, who could be placed as typical cases in the manic-depressive, involutional, anxiety-depressive, and reactive groups, 97 received a course of electric convulsion therapy, after which 71 (73%) were discharged recovered and 26 (27%) were discharged improved. Electric convulsion therapy was withheld for physical reasons from the remaining 17 patients who had cardiovascular diseases. Follow-up of the 71 patients at the end of three years after their discharge showed that no adequate information could be obtained in 7 (10%), 5 (7%) had died, 25 (35%) were completely well, 9 (13%) were fairly well, and 25 (35%) had relapses (most of them within the first six months). On admission, most of the patients had been severely ill, and many were calculated suicidal risks; several had made an active attempt at suicide before admission. Only two attempts at suicide were reported in the 97 patients who were followed up. On the ground of suicidal risk alone, therefore, treatment with electric convulsions can be said to have returned many socially useful persons to a happy and effective life much more quickly than would have been the case if a spontaneous remission had been awaited. From that and from the high number of patients with depression (73%) who made a good initial response to electric convulsion therapy, it is concluded that this method of treatment is effective in most cases of depression, but its limitations in some 30 to 40% of patients should be recognized. Epilepsy developed in a 27-year-old woman who had received the largest number of treatments (a total of 60). Except for this one serious complication reported, electric convulsion therapy physically is an innocuous form of treatment.

GYNECOLOGY AND OBSTETRICS

Carcinoma of the Breast and Pregnancy: Analysis of 920 Cases Collected from the Literature and 22 New Cases. T. T. White. Ann. Surg. **139**:9-18 (Jan.) 1954.

Coincidental occurrence of carcinoma of the breast and pregnancy or lactation is extremely uncommon. Only 920 patients were found after study of the world literature through 1950, and only 22 patients were found in three large hospitals in New York. The gross survival rate among patients in whom carcinoma develops during pregnancy or lactation is lower than among nonpregnant or lactating women, yet a number of these patients have been cured. The poor results in patients treated for carcinoma of the breast during pregnancy or lactation may be due to delay in treatment and the advanced stage of disease when treatment is instituted. Westburg found that pregnant and nursing women reported breast symptoms an average two months later than nonpregnant women. He stated that these women often thought the symptoms were part of normal pregnancy or lactation. The gross survival rate among patients in whom pregnancy followed treatment of a breast carcinoma is comparable to that in patients who did not become pregnant. It is possible that patients with advanced disease of the breast do not become pregnant after treatment because of the presence of metastases. Good results and relatively frequent cures may be due to this possibility. It was not possible to determine the effect of abortion on the survival rate of either of the two types of patients. It is probable that pregnancy is not contraindicated for patients with treated carcinoma of the breast without noticeable metastases.

Management of Endometrial Carcinoma. C.-B. Henle. J. Am. M. Women's A. **9**:11-12 (Jan.) 1954.

Henle stresses that the therapy of endometrial carcinoma should be individualized in accordance with the condition of the patient and of the lesion. The highest percentage of five year survivals is in the patients treated by multiple-source radium therapy, followed in six to eight weeks by a complete hysterectomy and bilateral salpingo-oophorectomy. Preoperative radiation therapy will lessen sepsis, reduce the size of the uterus, and render surgery easier and safer. It will devitalize the tumor cells and greatly reduce the chances of implantation of these cells in the vaginal and abdominal operative sites. It will lessen the chances of their spread to distant organs. By reducing sepsis and stopping bleeding, the patient's condition may be greatly improved. Occasionally, a previously inoperable lesion may become operable after irradiation. Postoperative roentgen therapy may be added if there are signs that the disease is spreading. Encouraging improvement in the survival rates has been noted in recent years. This improvement is attributed to the combination of therapies, as well as to earlier diagnoses and improved surgical and radiological techniques.

Sex Steroids and Cancer. R. S. Finkler. J. Am. M. Women's A. **9**:7-10 (Jan.) 1954.

Finkler includes under the term "sex steroids" estrogens, androgens, progesterone, and the adrenal cortical hormones. In her experience over a period of 25 years, no case of uterine cancer developed that could possibly have had a relationship

to estrogen administration. However, she cites the case of one woman in whom a malignant tumor of the breast developed after large doses of estrogens had been given for 13 years. The woman had refused surgical treatment for a radioresistant pituitary adenoma, and the estrogens were given to relieve severe headaches and vertigo. Since a malignant tumor of the colon also developed in this patient, she presumably had a carcinogenic tendency and, therefore, represented the human counterpart of carcinogenic strains of animals, which likewise respond to estrogens with the formation of malignant tumors. In the author's practice the following rules are adhered to with regard to the administration of estrogens. 1. Estrogens are contraindicated in women with a familial tendency to cancer of the breast or genitalia. 2. Estrogens are given in minimal doses to obtain symptomatic relief. 3. Duration of therapy is limited, and therapy is interrupted periodically. 4. Periodic examinations are made of the breasts and pelvic organs during hormone therapy. The etiological role of androgens and the therapeutic role of estrogens in cancer of the prostate is briefly mentioned. The discussion of the therapeutic application of the sex steroids in breast cancer in women and in men is followed by comments on the hormonal therapy of advanced cervical cancer. The relative merits of androgens and estrogens and of the adrenocortical hormones are evaluated, and the author concludes that hormonal therapy is valuable as a palliative measure in selected cases. Bilateral adrenalectomy constitutes a new therapeutic approach to the problem of advanced cancer of the breast and prostate.

Indications for Cesarean Section. R. A. Douglass, Jr. J. Tennessee M. A. 47:11-17 (Jan.) 1954.

With better anesthesia, antibiotics, availability of blood, and operative techniques, the use of cesarean section has increased during recent years, but Douglass deplores the growing tendency to use cesarean section in the management of all, or nearly all, obstetric complications. In institutions where this is the policy, 10, 15, or even 20% cesarean section rates are the result. He feels that, while cesarean section is now relatively safe, both maternal and fetal mortality rates are increased in cesarean section as compared with vaginal delivery. While some clinics have reported as many as 1,000 cesarean sections without a maternal death, most clinics report maternal mortality rates of 0.5 to 1%. It should also be remembered that the mother who has undergone a cesarean section is in danger of rupture of the uterus during future pregnancies. Although this complication is becoming less frequent, it still can occur. Furthermore, elective subsequent cesarean sections show a higher fetal mortality rate than do uncomplicated vaginal deliveries. Presumably the fetus receives a stimulus to breathing during vaginal delivery that is not present during cesarean section. Another important consideration is the limitation of pregnancies imposed on women who have had their children by cesarean section. Few women have more than three cesarean sections. The author feels that, except for a previous uterine incision, cephalopelvic disproportion and inertia will be the most frequent indications for cesarean section. Profuse vaginal bleeding near term is usually caused either by placenta praevia or premature separation of the placenta, and in the latter case the baby should be delivered within 3 to 4 hours at the most; the condition of the cervix will indicate whether vaginal delivery or cesarean section is preferable. Occasionally abnormal fetal positions may indicate cesarean section. Acute toxemia is a contraindication to cesarean section, unless other obstetric emergencies arise and make it necessary. The toxemic patient, particularly the one with eclampsia, is in no condition for operation and may die. The toxemia should be controlled for 48 to 72 hours before cesarean delivery is considered. Diabetes in the mother is not as such an indication for cesarean operation, but delivery of the infant before term may become necessary, and often the only feasible method of doing this is by cesarean section. Heart disease, although regarded by some as an indication for cesarean delivery, is considered by Douglass a contraindication. He feels that a patient without decompensation will tolerate labor much better than a cesarean operation. Sterilization also is better done after a vaginal delivery, than together with cesarean section.

Recent Childbirth and Pulmonary Tuberculosis. D. T. O'Driscoll. J. Irish M. A. 33:172-174 (Dec.) 1953.

The influences at work in the first year after childbirth are such that they might cause renewed activity in quiescent pulmonary tuberculosis, more rapid progress of active disease, or predispose to attack. These factors include the physical strain of recent childbirth and the puerperium, the worries of added responsibility in caring for a young child, and insufficiency of rest often associated with infant feeding. Investigations that were carried out to ascertain a cause and effect relationship between childbirth and an attack or reactivation of pulmonary tuberculosis revealed that there is no association between the two, except for an unexplained significant association in the age group 35 to 39. A comparison of the severity of the disease in patients discovered to have tuberculosis within a year of the birth of the last child and that of the female sanatorium population in general, showed no difference between the two groups. Thus pregnancy and recent childbirth do not seem to affect the severity of pulmonary tuberculosis.

PEDIATRICS

Mongolism and "Missed Mongolism" Following Maternal Illness. E. E. Brown. Arch. Pediat. 70:389-394 (Dec.) 1953.

Brown discusses maternal illnesses that occurred during early pregnancy and resulted in the birth of seven mongoloids and four "missed Mongols." The term "missed Mongol" is used here to describe four children who resembled Mongols and who had congenital defects similar to those often present in mongolism. As in true mongoloids, three other characteristics were usually present in this group—premature birth, subnormal birth weight, and retarded mentality. In 10 of these 11 cases, the mother had some form of illness during the first three months of pregnancy. Maternal illnesses included toxemia and severe vomiting in seven, one of whom also had nephritis and another who had rheumatic pains. Two of the other four mothers had severe sinusitis, one with an associated bacterial asthma and another with rheumatic pains. One mother had influenza in the second month of pregnancy. The 11th case was one of Rh incompatibility, but without maternal illness. The author feels that viral and bacterial diseases during the first three months of pregnancy may be a commoner cause of mongolism than has been recognized previously. Further studies of the health of mothers during the first trimester of pregnancy are needed to verify this suspected relationship.

Tuberculous Meningitis in Infants and Children. A. Robinson and Y. H. Ro. A. M. A. Am. J. Dis. Child. 87:139-155 (Feb.) 1954.

Of 25 children between the ages of 4 months and 14 years with tuberculous meningitis treated at the National Jewish Hospital in Denver, Colo. between 1948 and 1952, 23 (92%) had unequivocally positive results from tests either with 1:1,000 dilution of old tuberculin or purified protein derivative, and 24 had positive results from chest x-ray examinations. The diagnosis of tuberculous meningitis in the absence of either a positive tuberculin test or a chest film suggestive of tuberculosis or both should be made most cautiously. Streptomycin was given intramuscularly in doses of 100 mg. per kilogram of body weight per day in two divided doses for two weeks. Then 50 mg. per kilogram per day was given until about three months after the spinal fluid had become normal. Streptomycin was administered intrathecally daily for about 30 instillations or, preferably, until the spinal fluid began to improve. At that time the dose was given every other day until the spinal fluid became normal. The dosage of streptomycin intrathecally was arbitrarily set as follows: up to 18 months of age, 25 mg.; 18 months to 15 years, 50 mg. Streptokinase and purified protein derivative were also given occasionally intrathecally in cases of block, but intracisternal or intraventricular instillation of streptomycin several times a week seemed to be the best method for the prevention of a block or for the destruction of one after it had occurred. Para-aminosalicylic acid in doses of 0.2 gm. per kilogram per day, with a maximum dose of 12 gm. per day in three divided portions was given by mouth for two

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years after the discontinuance of streptomycin therapy; it was administered in a 20% solution as an elixir prepared with sodium bicarbonate, methyl salicylate, syrup of cinnamon, and water, which was well tolerated. Five of the most recent patients were given in addition to the above treatment isoniazid in a dose of 10 mg. per kilogram of body weight per day for 10 days and then 4 mg. per kilogram per day by mouth. Supportive care consisted of free use of blood transfusions and parenteral fluids with particular attention to electrolyte balance in the smaller patients. Fifteen of the 25 patients have been alive for at least six months, a survival rate of 60%. Only those patients who were admitted with a clear sensorium had a good prognosis. Of the 15 patients still alive, 4 show evidence of severe neurological damage; 3 other patients have minor neurological changes in muscle strength and reflexes of a unilateral nature. Many of the patients show some degree of mental retardation. The results obtained emphasize the fact that although tremendous strides have been made in the treatment of tuberculous meningitis, great advances still have to be made before it can be considered to be adequate. The most hopeful approach is that of prevention of tuberculous meningitis, particularly with the use of BCG. Emphasis is placed on the necessity for teamwork in many specialties for the care and follow-up of the patients with tuberculous meningitis.

DERMATOLOGY

Light Sensitive Eruptions Treated with Atabrine and Chloroquine. J. M. Knox, J. H. Lamb, B. Shelmire and R. J. Morgan. J. Invest. Dermat. **1**:11-16 (Jan.) 1954.

A Red Cross worker reported that while in India she had taken quinacrine (Atabrine) for its antimalarial action. During the period that her skin was yellowed by quinacrine pigmentation, she had noticed a decrease in the severity of a long-standing light-sensitive eruption, prurigo aestivale. The annoying disease was beginning to reappear after her return, and she preferred a return of the yellow discoloration to the eruption. The authors found her response to quinacrine so striking that later a man 28 years of age with a plaque-like, light-sensitive eruption of the face was given a similar therapeutic trial with the same success. The improvement noted in these two cases, plus the appearance of reports by Page and others on quinacrine in discoid lupus erythematosus, encouraged a clinical evaluation of this drug for the treatment of light-sensitive eruptions. In a table, the authors present data on 18 patients with various types of solar dermatitis, who were treated by different investigators with either quinacrine or chloroquine. The dosages varied, but improvement was noted in all 18 persons with light-sensitive eruptions. Chloroquine diphosphate has a somewhat similar chemical structure to quinacrine, although it has one less benzene ring. Even though this chemical does not produce fluorescence as quinacrine does, it appears to be equally beneficial in both lupus erythematosus and solar dermatitis. The amount of these agents necessary to prevent actinic dermatitis probably varies in each case. It is hoped that small amounts or even traces may be all that are necessary in these eruptions. As yet nothing seems to explain all of the factors in the beneficial effect of these drugs on patients with actinic dermatitis.

Treatment of Pustular Acne with Triple Sulfonamides. H. G. Hurst. Canad. M. A. J. **70**:38-41 (Jan.) 1954.

According to Hurst, the significance of bacterial infection in acne remains a controversial issue, yet evidence indicates that it has an essential role in producing the acne pustule. Persons in whom cystic acne develops probably have a low resistance to staphylococci, and it is in these patients that trial administration of chemotherapeutic or antibiotic agents frequently results in improvement not obtained by other measures. During the period 1950 to 1953, a total of 129 consecutive cases of various clinical types of acne were reviewed. Of this number, 107 were under continued observation for a sufficient length of time to permit adequate conclusions to be drawn. All these patients had had their eruption six months or longer. In 50 a triple sulfonamide, either Trulfazine or Sulfose, was used as the anti-infectious agent. This group consisted predominantly of persons showing pustular cystic or nodular lesions. The sulfonamides were not used alone and dietary restrictions, topical applications, and irradiation were used as well. Foci of infection were found infrequently. Many patients in this group had had previous treatment. The sulfonamide dosage varied from 0.5 gm. twice a day to 1 gm. four times a day. In the 50 patients who served as controls, treatment was essentially the same, except that no sulfonamides were given. Almost all of the control patients had mild or moderate comedopapular acne, and few had been treated previously. Of the group given sulfonamides, 52% obtained excellent results, 40% were moderately improved, and 8% showed few changes. A small number showed a tendency to a recurrence of their eruption if the maintenance dose of sulfonamides was discontinued too quickly. In the control group of patients with milder, superficial acne results were excellent in 20%, good or moderately improved in 60%, and unimproved or little change in 20%. Seven patients not included in the above groups showed toxic manifestations after taking only small amounts of sulfonamides. Complete cure is difficult to obtain in acne.

UROLOGY

Technical Notes on Experimental Transplantation of Kidney. A. Valentino, I. Florio and L. Peruzzo. Arch. ital. urol. **26**:301-315 (No. 4) 1953. (In Italian.)

The authors describe autotransplantation of kidneys in dogs. In some of them, the kidney was placed in the left side of the neck and the renal artery was anastomosed to the carotid artery and the renal vein to the external jugular vein. In others, the kidney was placed in the inguinocrural area, and the renal vessels were anastomosed to the femoral vessels. To collect the urine more easily, the ureter was drawn out to the skin surface as a ureterostomy. The first phase of the intervention consisted in the preparation of the future kidney bed and isolation of the host vessels, the second in a pararectal laparotomy after which the kidney was removed by the transperitoneal approach. The removed kidney was washed by injecting isotonic sodium chloride solution, penicillin, and heparin into the renal artery at low pressure, and it was then placed in a container with the three compounds at a temperature of 4 C for the time necessary to prepare the anastomosis. To be successful the transplantation should be made as soon after the removal of the kidney as possible. To prevent degenerative parenchymal processes or, if these are already present, to prevent them from becoming irreversible, the authors believe that not more than 45 to 60 minutes should elapse between the time in which the kidney is removed and that in which circulation through it is restored. The formation of clots in the vascular network of the kidney was prevented by administering heparin to the dogs. To avoid hemorrhages, the authors began to administer the anticoagulant on the second and third postoperative day but never before or during the intervention. The anoxia and the vascular thromboses that are secondary to a transitory interruption of the renal function were prevented by inserting two polyethylene tubes into the renal artery and the renal vein. These enabled the blood to circulate through the kidney with almost no interruption while the anastomoses were being performed according to Blalock's technique. The functional inactivity of the kidney thus lasted for one to two minutes and the vitality of the organ was never in danger. The autotransplantation was successful in most of the dogs. The authors used the same procedure for bilateral kidney autotransplantation in two dogs and for a homotransplantation in another. The latter failed; the kidney functioned, but not too well, only two days.

Anatomic and Functional Studies of Experimental Transplanted Kidney. A. Valentino, I. Florio and L. Peruzzo. Arch. ital. urol. **26**:433-444 (No. 5) 1953. (In Italian.)

Results of anatomic, histological, radiological, chromoscopic, and laboratory studies of autotransplanted kidneys in dogs are reported. The parenchyma was always altered; the glomerulus was the first to be impaired and later hyaline degeneration appeared; degenerative phenomena were present in the cortical and medullar zones of the tubuli; the walls of the vessels had become thick with pronounced alterations in the intima; proliferation of

the connective elements was moderate varying from zone to zone; and the intertubular tissue was increased. Tests made 20 days after the transplantation revealed a marked decrease of the glomerular filtration rate, an insufficient tubular reabsorption rate, and an impaired renal plasma flow. After 70 days the tubular reabsorption rate was within normal values, the plasma flow was improved, but the rate of the glomerular filtration had increased only slightly. This may explain the persistent decreased diuresis that never improved markedly. There was at first retention of the chlorides in the blood (probably because of insufficient glomerular filtration), but later chloridemia became normal and chloruria was increased. The endogenous creatinine in the blood was at first increased, probably because of cytolysis, but later reached normal values. The authors conclude that in the transplanted kidney there was always some functional impairment, especially of the glomerular area. They attribute this to the changed condition of the blood flow that in the femoral artery is always less than in the aorta. The fact that the transplanted kidney's circulation is no longer governed in the glomeruli by the action of the nervous structure must also be taken into consideration. Comparing their results with those of authors who reported normal histological findings in transplanted kidneys, the authors state that the difference may lie in the fact that they drew the ureter out to the skin surface instead of anastomosing it to the bladder. Although their method facilitated the functional study of the kidney, it also facilitated infections and therefore pyelorenal alterations.

Treatment of Genito-Urinary Tuberculosis. J. G. Gow. Brit. J. Urol. **25**:316-325 (Dec.) 1953.

During the last four years, when 250 patients were treated at the hospital with which Gow is connected, the treatment was frequently changed, because of the rapid progress in antibiotic therapy, the development of resistant strains, and the toxic manifestations of certain drugs. In an earlier report particular attention was given to the use of a modified form of *p*-aminosalicylic acid, that is, the calcium salt of N benzoyl *p*-aminosalicylic acid. This drug is almost nontoxic and produces little gastric upset. In fact in only 2 cases of the last 100 was it necessary to stop using the drug for this reason, and both these patients tolerated ordinary *p*-aminosalicylic acid. It is tasteless, need not be given so often, gives a constant though low plasma level, and, most important, gives a high level of *p*-aminosalicylic acid in the urine. It appears to be hydrolyzed in the kidney, liberating free *p*-aminosalicylic acid, which is the reason for high urinary *p*-aminosalicylic acid content. It is because of this high level of *p*-aminosalicylic acid in the urine that it has a special place in genitourinary tuberculosis. Unfortunately it does not seem to be tolerated so well by children. The author also comments on the use of streptomycin, isoniazid, and ethizone (Tb. 3). In the light of trials carried out under the supervision of the Medical Research Council of Britain the following scheme of drug therapy is to be employed in genitourinary tuberculosis for at least two years. Streptomycin is to be given in a daily dose of 2 gm. combined with isoniazid (250 mg. daily). After this combination has been given for two weeks, the patients are to receive daily 150 mg. of ethizone in divided doses, as well as three times daily 7 gm. of the calcium salt of N benzoyl *p*-aminosalicylic acid. This combination likewise is to be continued for two weeks, and the two combinations are then alternated for at least six months. It was hoped that this intermittent treatment would reduce toxicity and the emergence of resistant strains, also sufficiently large doses could be given to obtain maximum effects. The efficacy of this therapeutic regimen was estimated on the basis of sterilization of the urine. Urines are examined every two months during the period of treatment, and the use of all drugs is stopped for four days before specimens are collected. The final specimen is not collected for at least a week after the full course of treatment is finished. In those patients in whom the six month course of treatment did not seem quite enough, a modified treatment with three of the drugs (ethizone was excluded) was continued. Sanatorium care, administration of antibiotics, and surgical treatment should be combined in the therapy of genitourinary tuberculosis. Surgical treatment should be carried out only under sanatorium conditions. Combined therapy is essential when using antibiotics.

OPHTHALMOLOGY

Ocular Palsies Following Retrobulbar Injection of Acetylcholine for Retinal Arterial Occlusion. I. W. Payne and H. Reed. Brit. J. Ophth. **38**:46-48 (Jan.) 1954.

Payne and Reed reviewed the records of 73 patients with retinal arterial occlusion, 22 of whom were treated by injection of acetylcholine. This substance is the naturally occurring humoral transmitter at autonomic ganglions, parasympathetic nerve endings, and voluntary neuromuscular junctions. It dilates arteries and arterioles, and it is used in cases of arterial occlusion. It also produces contraction of voluntary muscles by virtue of its physiological action on the motor end-plates of the nerves to these muscles. The extraocular muscles are unusually sensitive to its action. Five cases are described in which ocular palsies followed the retrobulbar injection of acetylcholine. In each case the extraocular muscles were affected, and in three a pupillary palsy and anesthesia of the cornea were also produced. The extraocular palsies show a tendency to slow recovery, but there has been no improvement in the corneal sensation or pupillary reflexes. Improvement in vision occurred in only one of the 73 cases. Unfortunately, the majority of these patients were not seen until the occlusion had been present for several days. The reason for this delay in seeking treatment is partly due to the fact that many of these patients had experienced recurrent attacks of transient loss of vision due to retinal artery spasm with complete recovery of vision. When the final occlusion occurred, they awaited the accustomed return of sight for hours or days, so that by the time advice was sought the spasm had become an organic occlusion. All that treatment can be expected to do is to relieve spasm, so that it is only in those few patients who are seen very early that visual improvement is possible.

Observations on the Etiology of Retrolental Fibroplasia. H. H. Gordon, L. Lubchenco and I. Hix. Bull. Johns Hopkins Hosp. **94**:34-44 (Jan.) 1954.

Gordon and associates review the history of retrolental fibroplasia and discuss experiences with this disease at the Colorado General Hospital in Denver. The incidence of residual lesions of retrolental fibroplasia in 211 prematurely born infants weighing less than 1.5 kg. at birth was analyzed in relation to oxygen administration. A special program for the care of premature infants was started in May, 1947, but small infants born elsewhere were not admitted to the Premature Center until February, 1948. During the next two years the authors saw only scattered patients with residuals of retrolental fibroplasia. In 1950, however, there was a sharp rise in incidence, and, at one time during the summer of 1950, 7 of 11 infants then in the nursery had severe residual lesions. After considering and ruling out other possible factors, the use of oxygen was studied. Oxygen had been used extensively, particularly after the nurseries were transferred in April, 1950, to new quarters in which the piping in of oxygen from a central supply had made it as easily available as water from a faucet. The reasons why oxygen is given to premature infants are discussed. Since optimal environmental concentrations or duration of oxygen therapy are unknown, the use in Denver as well as in most nurseries had been for the most part unscrutinized. The authors found that the flow of oxygen probably resulted in concentrations well over 50 to 60% in the incubators. The nursing and medical staffs were shown that infants could be raised with initial concentrations of oxygen of 30 to 40%. The infants could be weaned more quickly to room air, so that the duration of oxygen therapy was also decreased. Furthermore, there was virtually no retrolental fibroplasia in the nursery during the first months after the change. The results of a two year period of restriction of oxygen are now available for comparison with the previous periods. Restriction of oxygen led to a marked drop in incidence in both residual lesions and membranes as compared with a previous period of unscrutinized high oxygen therapy. Survival rates were not adversely affected by restriction of oxygen. Factors other than high oxygen that may contribute to the occurrence of the disease are discussed.

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OTORHINOLARYNGOLOGY

Ototoxicity of Mixture of Streptomycin and Dihydrostreptomycin: Preliminary Report. E. G. S. Lumsden and R. J. Powell. Tubercle **34**:324-330 (Dec.) 1953.

Lumsden and Powell point out that the vestibular division of the eighth nerve is chiefly influenced by streptomycin, whereas dihydrostreptomycin affects the auditory division. Auditory impairment occurs later in the course of treatment than vestibular disturbance does and may progress after treatment has ceased; occasionally deafness appears for the first time after cessation of treatment, probably due to extension of high tone loss into the speech range. Regression of auditory damage from dihydrostreptomycin is rarely complete, and it has been recommended that dihydrostreptomycin should be discarded. The trial reported was designed to investigate whether a mixture of streptomycin and dihydrostreptomycin sulfates had any advantage over streptomycin alone. Of two groups of 20 patients, each group was given 1 gm. of streptomycin sulfate daily and the other group was given 1 gm. of a mixture of sulfates of streptomycin and dihydrostreptomycin in equal proportions daily. All patients were given daily 12 gm. of *p*-aminosalicylic acid, and treatment was continued for 12 weeks. Vestibular disturbance was noted in 12 receiving streptomycin but in only 5 patients receiving the mixture, in whom the symptoms were much less severe. Auditory loss occurred in none of the first group but to a slight degree in three of the second group. Improvement to almost normal resulted even in the one of the three in whom the auditory loss had been severest. The authors feel that streptomycin in a dose of 1 gm. daily is likely to cause disabling vestibular symptoms only in older patients, and for these patients the mixture is preferable. It should be particularly suitable for patients over the age of 40 owing to the considerably reduced risk of vestibular disturbance. When severe giddiness and ataxia occur in younger persons, or at any age, substitution of the streptomycin-dihydrostreptomycin mixture may enable antibiotic therapy to be continued without further aggravation of symptoms.

THERAPEUTICS

Failure of Ejaculation Produced by Dibenzyline: Preliminary Report. M. Green and S. Berman. Connecticut M. J. **18**:30-33 (Jan.) 1954.

Dibenzyline (N-phenoxyisopropyl-N-benzyl-β-chloroethylamine hydrochloride), a potent adrenolytic agent in some cases of hypertension and various peripheral vascular diseases, was investigated by Green and associates for its value in the adjunctive treatment of some psychiatric syndromes. It seemed that the chemical blockade of adrenergic effects would minimize some of the distressing components of anxiety that play a significant part in psychiatric conditions. Early in this study, when only seven patients had been given Dibenzyline, four reported failure of seminal emission in sexual intercourse. The authors feel that a significant clue to the mode of action of Dibenzyline in producing failure of ejaculation is the fact that the same phenomenon is occasionally observed after bilateral thoracolumbar sympathectomy. In ejaculation the musculature of the epididymes, vasa deferentia, seminal vesicles, ejaculatory ducts, prostate, perineum, and penis all must act in coordination. The peristalsis of the vasa deferentia, seminal vesicles, and ejaculatory ducts that discharges semen into the urethra, as well as the contraction of the internal vesical sphincter that prevents reflux of the semen into the bladder, are induced by efferent impulses from the hypogastric plexuses that derive from the thoracolumbar (sympathetic) outflow. Dibenzyline causes failure of ejaculation by blocking these adrenergic impulses at the neuroeffector junction. Such semen as may reach the urethra might easily reflux through the relaxed internal sphincter of the bladder, later manifesting itself in the "pure white urine" reported by one of the four patients described here. Subsequent to the preparation of this manuscript a report appeared in which investigators noted a "decrease in amount of seminal fluid" in 26 of 82 patients with vasospastic or occlusive vascular diseases who received Dibenzyline.

Intravenous Terramycin in Treatment of Early Syphilis and Granuloma Inguinale. E. M. C. Dunlop and R. C. V. Robinson. Am. J. Syph. **38**:24-29 (Jan.) 1954.

According to Dunlop and Robinson there have been a number of reports dealing with the oral administration of oxytetracycline (Terramycin) in venereal diseases. They discuss the results obtained with the intravenous administration of oxytetracycline in four patients with dark-field positive, early (two with primary and two with secondary) syphilis and in four patients with granuloma inguinale. Each patient was given 0.5 gm. of oxytetracycline daily for 10 days. The drug was dissolved in 250 cc. of sterile distilled water and administered by gravity during a 10 to 15 minute period, while the patient was lying in a supine position. One patient complained of nausea during each treatment and had a nitritoid reaction during the first treatment; four other patients complained of diarrhea at some time during therapy, and one of these had nausea after the first injection. Treponemas were recovered from syphilitic lesions 20 hours after initial therapy in one patient, 24 hours in two others, and 48, probably even 72, hours in the fourth patient who subsequently relapsed. Further intravenous administration of oxytetracycline in the treatment of syphilis does not appear justified, in view of the difficulty of administration and the proved efficacy of other modes of treatment. Of the four patients with granuloma inguinale who were treated with intravenously administered oxytetracycline, two relapsed in 72 and 122 days, respectively. In the dosage used, the intravenous injection of oxytetracycline does not seem to be as effective as other proved modes of treatment, including the oral administration of this drug.

Cortisone and Corticotropin in Leukemia: Intradermal Administration of Corticotropin. E. Bottone and M. Biscioni. Arch. ital. pediat. e puericolt. **16**:181-226 (No. 3) 1953. (In Italian.)

Five children, 2 to 7 years of age, with acute leukemia were treated with cortisone and corticotropin. Two received 50 mg. of cortisone daily for 10 and 25 days, respectively, and the other three one or more courses of corticotropin by intradermal injections of 3 mg. into the forearm. If resistance to corticotropin developed, cortisone was given intramuscularly in doses of 25 to 50 mg. All the children received also penicillin, streptomycin, and blood transfusions. Although there were only transitory improvements, the patients' general condition was benefited, their appetite was increased, and their strength restored. Some were able to leave bed for entire days. Untoward effects, such as edema, convulsions, hemorrhage, and skin and mucous membrane manifestations, did not occur, as a rule, during the treatment. The high temperature, however, was never influenced by the treatment, suggesting that there probably is in the organism of leukemic patients some particular condition that suppresses the known antipyretic action of these hormones. The therapy had a quick and constant effect on the spleen and the peripheral lymph nodes, even in children in whom there were no significant changes in the bone marrow. There was a complete, although transitory, remission of clinical and hematological symptoms in one child; a partial remission in three children in whom the leukemic elements of the bone marrow and the peripheral circulation decreased, and granulopoiesis had a tendency to return to normal; and the condition remained unchanged in one patient. The average survival time of these children was six months from the time of the onset of symptoms.

Suppression of Tuberculous Lung Cavities with Isoniazid Therapy. A. Conti and G. Brambilla. Clinica, Bologna. **14**:359-367 (No. 5) 1953. (In Italian.)

The authors, following a previous paper on the good results obtained with isoniazid in 45 tuberculous patients, cite six other patients in whom tuberculous lung cavities disappeared as a result of isoniazid therapy. Prolonged administration of streptomycin, *p*-aminosalicylic acid, and thiosemicarbazone had had no beneficial effects in five of these patients some of whom were beyond the stage of collapse therapy. The lesions were of recent onset in one patient who was given izoniazid alone. The general condition of the patients improved after isoniazid therapy was instituted, and within two months the roentgenograms revealed that the cavities that were seen before the treatment were no

longer present. Four to eight months later the patients' condition was still improved and the roentgenograms revealed no signs of relapse. The suppression of tuberculous lung cavities with antibiotics and chemotherapeutic agents alone has been so far very rare. These results are, therefore, very encouraging. However, it is suggested that tuberculous patients who are being treated medically be observed closely so that collapse therapy and surgery may be instituted at once when needed.

Agranulocytosis Cured with Corticotropin. D. Gigante and N. Monti. Clin. terap. 5:459-468 (Nov.) 1953. (In Italian.)

Allergic hyperplastic agranulocytosis was diagnosed in a 58-year-old man. The authors could not determine whether the disease was caused by the "amidopirina" or the sulfonamide that the patient had taken at the onset of fever, tracheal catarrh, and anginal pains. They did not think it advisable to test for sensitivity by administration of small trial doses of either drug. In addition to the clinical signs, a complete maturation arrest of the granulocytic series at the myelocyte-promyelocyte levels and almost total lack of neutrophil granulocytes in the peripheral circulation were revealed by blood and bone marrow studies. The two unfavorable prognostic signs of this condition, almost complete absence of the eosinophils from the blood and intense monocytosis, were both present. When the patient was not benefited by oxytetracycline (Terramycin) and three transfusions of 150 cc. of blood, 50 mg. of corticotropin was given daily in divided doses for seven days. The blood picture changed soon after this therapy was instituted. The circulating white blood cells increased to above the normal values, and the neutrophil granulocytes reappeared and reached the normal values by the third day. The myelogram was almost normal. Concurrently with the disappearance of the agranulocytosis, the hemoglobin and the erythrocytes returned to normal and the patient's general condition improved. The improvement was evidenced by a marked weight increase. The blood protein picture returned to normal more slowly. The patient was discharged clinically cured. Two successive follow-ups one month apart indicated that his blood was normal and that he was in excellent health.

Fatal Thrombocytopenic Purpura Following Phenylbutazone (Butazolidin) Therapy. L. Feldman, F. Cohnen and H. Hirsch. Illinois M. J. 105:83-84 (Feb.) 1954.

Feldman and associates present the case of a woman aged 61, who bled from the mouth and had dark stools and purpuric spots on the legs and trunk for seven days. A few years before she began having pains in various joints, and one year before she had an operation on her left hip. Five months before an orthopedic surgeon had prescribed phenylbutazone (Butazolidin). He had told her that frequent blood tests would be essential while she was taking the drug, but she had only one blood test made about three months prior to her present complaints. Inquiry from her druggist revealed that, in several refills between Nov. 24, and Feb. 26, she probably had obtained 140 tablets of phenylbutazone (200 mg. each). When she was seen by the authors, blood-tinged saliva was escaping from her mouth. Examination revealed a cherry-sized clot on the hard palate and the buccal mucosa of each cheek. There was some bleeding from the gums. Numerous petechiae and ecchymotic spots were noted all over the body. The erythrocyte count was 3,180,000, the hemoglobin 9.6 gm. (61.5%), the leukocyte count 3,000, the hematocrit 28, and the platelets were greatly reduced. The differential count was segmented granulocytes 47, lymphocytes 45, and monocytes 7. The clotting time was 18.5 minutes, and the bleeding time was more than 10 minutes. The urine contained many red blood cells. The stool was strongly positive to benzidine. The patient was hospitalized immediately, and blood transfusion was started and corticotropin (ACTH) was given. During the night a severe headache developed and dark, blood-stained material was vomited. Two hours later she was in stupor, and the Babinski response was elicited bilaterally. Coma deepened, and the patient died the following morning. The authors feel that the drug was responsible for the fatal thrombocytopenia. Many toxic effects of phenylbutazone have been described, but most of them were not very serious, such as edema, nausea, anemia, reactivation of latent peptic ulcer, vertigo, and skin eruptions. Cases of agranulocytosis yielding to treatment have also been reported, but the authors believe that the case here reported is the first of fatal thrombocytopenia resulting from the use of this drug.

Anorectal Complications Following Aureomycin, Terramycin, and Chloromycetin Therapy. S. D. Manheim and R. M. Alexander. New York J. Med. 54:231-233 (Jan. 15) 1954.

This review is based on data obtained from 300 patients, in whom anorectal complications developed after treatment with chlortetracycline (Aureomycin), oxytetracycline (Terramycin), and chloramphenicol (Chloromycetin). Two-thirds of these patients had received the drugs for colds, sore throats, virus infections, and flu. Inasmuch as the antibiotics are not specific for these disorders, the therapy was of questionable value. In the remaining 100 cases the use of the antibiotics was probably justified. Males out-numbered females in a ratio of two to one. Patients in the fourth, fifth and sixth decades of life showed the greatest morbidity. The reason for this may be that persons of these age groups are more subject to the anorectal disorders. Pediatricians corroborated that very few children show anorectal complications after treatment with antibiotics. Pruritus was the commonest complication occurring in 207 of the 300 patients; multiple fissures occurred in 51, ulcerative proctitis in 14, abscess and fistula formation requiring surgical therapy in 8, and ulcer necessitating surgical treatment in 6, ulcerative colitis in 5, and in others inactive anal lesions became exacerbated. The commonest group of symptoms included perianal itching, burning, bleeding, a feeling of continuous moisture, and fecal staining of the underclothing, despite meticulous cleansing. This syndrome usually arises one to two weeks after ingestion of the drug and in about 40% of cases follows a short period of diarrhea. The symptoms are accentuated during the day and after defecation; there is rarely any discomfort at night. Proctologic examination usually reveals a perianal erythema, multiple excoriations, and superficial fissures. In the patients with pruritus, prompt relief was frequently obtained by applications of fungicidal powders and the oral ingestion of buttermilk, yoghurt, or acidophilus milk. Local applications of solutions causing mild desquamation of the superficial layers of the skin were of benefit. The responses to questionnaires indicated that in over two-thirds of the patients recurrences developed after apparent cure, without further ingestion of the drugs. Many patients subsequently were cured, but, at the time of this report, about half still had recurrences. The authors stress that greater discrimination should be used in prescribing chlortetracyline, oxytetracycline, and chloramphenicol.

Bactericidal Activity of Streptomycin and Isoniazid Against Tubercle Bacilli. B. Singh and D. A. Mitchison. Brit. M. J. 1:130-131 (Jan. 16) 1954.

The action of streptomycin and isoniazid, both alone and in combination, on Tween-albumin cultures of Mycobacterium tuberculosis was studied. An attempt was made to use concentrations of these drugs comparable to those found in treated patients. The streptomycin concentration of 20 units per cubic centimeter and the isoniazid concentration of 2 mcg. per cubic centimeter that were used are both about equal to maximum serum levels; and the two lower concentrations of 2 units of streptomycin per cubic centimeter and of 0.2 mcg. of isoniazid per cubic centimeter, also used, are both four to eight times the maximal concentration that inhibits the growth of sensitive tubercle bacilli. Thus the concentrations used by the authors can be regarded as equivalent for both drugs and are about equal to maximal and minimal therapeutic serum levels. Results showed that at concentrations four to eight times those necessary to inhibit growth of tubercle bacilli the bactericidal activities of streptomycin and isoniazid were the same. At concentrations 10 times higher, corresponding to maximal serum levels, the activity of streptomycin was greater than that of isoniazid. The activity of the combination of both drugs was higher than that of either alone and prevented the growth of resistant strains of tubercle bacilli.

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PATHOLOGY

Concerning Cerebral Arteriosclerosis. M. Fisher. J. Am. Geri. Soc. 2:1-18 (Jan.) 1954.

Starting with the premise that there is a widespread tendency to attribute many clinical symptoms of the elderly patient to "cerebral arteriosclerosis," the brains removed at necropsy and all the available clinical data from 1,500 patients who died at two large hospitals in Montreal, Canada, were studied by the author. The only type of arteriopathies, more accurately known as atherosclerosis, of major importance in the production of cerebral symptoms is described in regard to (1) its pathological aspects and (2) the way symptoms and lesions are produced. Atherosclerosis is primarily a focal disease and certain sites such as the bifurcations, branchings and curves of the larger vessels at the base of the brain, the carotid sinus at the origin of the internal carotid artery, the middle cerebral artery at its origin and at its first bifurcation, the vertebral arteries as they enter the craniospinal space at the atlas vertebra, the lower extremity and the region of bifurcation of the basilar artery, and certain portions of the posterior and anterior cerebral artery show a predilection to development of plaques. These sites must be kept in mind when considering the effects of atherosclerosis. Hypertension leads to deposits in the smaller penetrating and surface vessels and, in addition, tends to produce a more uniform layer in the larger arteries. Cerebral atherosclerosis, in general, parallels the process elsewhere in the body. The different colors of the plaques are indicators of the malignancy of the process. Atherosclerosis by itself does not cause symptoms unless hypotensive vascular collapse occurs. Moreover, total occlusion of various cerebral vessels was observed without having caused lesions and in the absence of symptoms. In most of the cases symptoms are elicited only when thrombosis is superimposed and the blood supply to the corresponding cerebral tissue compromised. Strokes are the chief counterpart of cerebral atherosclerosis. Cerebral vasospastic attacks can be linked to atherothrombosis in most cases but the mechanism by which they are prevented by anticoagulant therapy is still obscure. Except for bilateral carotid occlusion, atherosclerotic narrowing of vessels is not regarded as a cause of senile dementia, and "cerebral arteriosclerosis" elicits mental deterioration only in so far as it has caused strokes, perhaps not recognized because of lack of paralysis or sensory change. The cause of idiopathic senile dementia must be sought in other spheres than anoxia or ischemia. Atherosclerosis, in order to cause epilepsy, must lead to a cerebral softening, presumably via thrombosis. Dizziness as an isolated complaint should not be attributed to "cerebral arteriosclerosis," except as it connotes impending atherothrombosis within the vertebral-basilar system. Atherosclerosis without thrombosis will not produce arteriosclerotic parkinsonism; it is likely that the rigidity of elderly patients and of the senile demented is not all related to vascular disease. Sleeplessness, slowing-up, depression, or sensitivity of elderly patients to drugs have no relation to atherosclerosis. It is to be emphasized that the pathological process of cerebral arteriosclerosis must be visualized in terms of a localized cerebral lesion or lesions and not of a vaguely defined scattering of atherosclerotic plaques.

Cor Pulmonale in Coal-Worker's Pneumoconiosis. A. L. Wells. Brit. Heart J. 16:74-78 (Jan.) 1954.

Of 388 coal workers from the Rhonda and neighboring valleys of the South Wales coal field who died and on whom necropsies were performed, 181 had simple pneumonoconiosis, 136 massive pneumonoconiosis, and 71 tuberculosis. Twenty-eight of the 181 coal workers with simple pneumonoconiosis died of right cardiac failure; in only 4 of the 28, cor pulmonale was caused by simple pneumonoconiosis alone; the remaining 24 had other pulmonary lesions in addition to simple pneumonoconiosis. Thus simple pneumonoconiosis rarely gave rise to right heart failure by itself, although the two were frequently associated in the presence of other pulmonary disease. In these mixed cases it is doubtful whether the simple pneumonoconiosis played a significant part in causing death. Of the 136 coal workers with massive pneumonoconiosis, 57 (42%) died of cor pulmonale without another cardiac disease. An additional group of 37 (27%) died of heart failure, partly caused by other lesions such as resulting from severe coronary arterial disease, cardiac valvular disease, and systemic hypertension, but the pneumonoconiosis probably contributed materially to the cause of death. The assessment of the 71 cases with tuberculosis was complicated by the coexistence of fatal tuberculous lesions with heart failure, but 12 (17%) of this group were considered to have died of cor pulmonale heart failure.

RADIOLOGY

Circulatory Studies with Radioactive Isotopes. G. Nylin. Acta med. scandinav. 147:275-298 (No. 4) 1953. (In English.)

Red blood corpuscles and plasma were labeled with radioactive isotopes, such as radioactive phosphorus (P^{32}), potassium (K^{42}) and thorium B. A sample of blood was taken from a brachial vein and introduced into a glass bottle containing radioactive sodium phosphate together with heparin to prevent coagulation. After shaking the bottle for two hours in a water bath at 37 C, the blood corpuscles and the plasma became about equally labeled by the radioactive phosphate. A small part of this labeled blood was centrifuged, and the blood corpuscles and the plasma were tested separately with a Geiger-Müller counter for beta rays, activity being expressed in impulses per minute and in grams. The rest of the blood sample was then injected intravenously into the patient. The loss of activity from the red blood cells one hour after intravenous injection of whole labeled blood was only 2 to 3%, which is within the margin of error. After intravenous injection of labeled red blood cells alone, the loss was about 8% in one hour, but it is possible that some of this loss may be ascribed to the hemolysis of some red blood cells by the washing process. The mixing of the injected labeled cells and the circulating blood was studied in a healthy person with a heart of normal size and in a patient with an extremely dilated heart due to mitral stenosis and aortic incompetence. In the latter case the number of red corpuscles rose to almost double the normal, probably from residual blood in the enlarged heart itself. The method of labeling blood corpuscles was used also to investigate whether the human spleen stores a considerable amount of blood that is discharged through muscular exercise or the injection of epinephrine. Results suggested that man does not have any such considerable stores; neither after muscular exercise nor after the injection of epinephrine did the activity decline from the constant level. The influence of shock on mixing was studied on the assumption that in shock the mixing is delayed. Mixing time is the fundamental factor for measuring the circulating red blood cell volume. Determining the activity of successively drawn blood samples revealed when mixing had taken place. The method proved useful for studying the red blood cell volume in conditions, such as cardiac decompensation, tetralogy of Fallot and lung diseases associated with cyanosis and faulty oxygenization of the arterial blood. Labeling with thorium B instead of with radioactive phosphorus offers the advantages of a shorter half-time and that thorium B accumulates to 99% in the blood corpuscles. The loss of activity after intravenous injection of red blood cells labeled with thorium B was still less than after the injection of red blood cells labeled with radioactive phosphorus. The red blood cells remained constantly labeled for one to two hours.

Tuberculosis of Ribs. M. Tatelman and E. J. P. Drouillard. Am. J. Roentgenol. 70:923-935 (Dec.) 1953.

Tatelman and Drouillard reviewed the cases of rib tuberculosis seen at several Detroit hospitals. They gave particular attention to the roentgenologic aspects not only because previous reports about tuberculosis of the ribs had paid little attention to these, but also because they hoped to establish some diagnostic criteria for the roentgenologic diagnosis of this condition. A total of 23 cases of rib tuberculosis proved by biopsy, autopsy, or bacteriological methods, and having adequate roentgenological studies, which were seen during the period 1938 to 1948 (inclusive), form the basis for this study. Statistics on the incidence of rib tuberculosis vary from 1 to 16% of all cases of tuberculosis of bone and joints. In the material investigated by

the authors rib tuberculosis was found to occur in 5% of all cases of bone and joint tuberculosis. Rib tuberculosis occurs in males about 2.5 times as often as it does in females. Although cases occur at almost any age (e. g., ranging from ages 9 to 70 in this series), the greatest frequency is between the ages of 15 and 35, as contrasted to most forms of bone tuberculosis that occur with greatest frequency between the ages of 2 and 10. Active pulmonary tuberculosis or quiescent reinfection type of pulmonary tuberculosis is not often seen in association with rib tuberculosis. The authors found only 6 cases of reinfection type pulmonary tuberculosis (4 of which were active) among these 23 cases of rib tuberculosis. Other sites of tuberculous bone involvement are seen in association with rib tuberculosis fairly often (in 15 of the 23 cases). Tuberculosis of the rib is almost purely destructive. Local soft tissue mass (actually a "cold abscess") is quite common as is local pain, and draining sinus may follow the appearance of the soft tissue mass. The roentgenographic appearance is variable, depending on the location of the rib lesion and the degree and stage of its development. Differentiation from other causes of rib destruction is sometimes quite difficult particularly in the case of infectious processes and solitary osteolytic rib metastases. Needle biopsy is suggested as a means of arriving at a diagnosis in obscure cases. The treatment of choice for rib tuberculosis is surgical resection combined with streptomycin, provided there is no active pulmonary, vertebral, or systemic tuberculosis.

Ten Years' Experience with Radioactive Iodide. E. M. Chapman, F. Maloof, J. Maisterrena and J. M. Martin. J. Clin. Endocrinol. **14:**45-55 (Jan.) 1954.

The results obtained by the use of radioactive iodide (I^{130} and I^{131}) in 445 patients treated during a 10 year period show that it is an effective agent in the control of hyperthyroidism caused by a diffusely hyperplastic thyroid. The biological response to this form of radiation is gradual, and patients may continue to respond over a period of several months. Myxedema has, in fact, sometimes appeared many years after the original cell injury. Follow-up of the first 45 patients, who were treated between 1943 and 1946 with I^{130} alone, showed that, of the 39 who responded to therapy, 30 were well in 1953, while 9 had become myxedematous. Three of the remaining six had died and three were not seen. I^{131} has been given to 400 additional patients since 1946; 355 have responded to treatment; 19, though improved, were still toxic six months after treatment; 5 were operated on after showing a partial response; and 21 died from other causes after treatment. Studies made by means of thyroidal tracer uptakes of radioiodide, serum protein-bound iodine determinations, and basal metabolic rates show that patients treated with I^{131} may become myxedematous or euthyroid or may remain persistently hyperthyroid with the usual indexes. Dissociation of the indexes of function was found in two groups; first, in several apparently euthyroid patients with tracer uptakes under 20%, serum protein-bound iodine levels less than 3 gammas per 100 ml., and basal metabolic rates above -20%; and second, in patients who are toxic with a high protein-bound iodine level and a high basal metabolic rate, but with a normal thyroidal uptake of radioactive iodide. I^{131} radiation produces fibrosis and cellular damage resulting in bizarre nuclear forms in the thyroid, yet some of the remaining follicles appear hyperplastic. No evidence of malignancy was found in histological sections from 44 thyroids studied after treatment with I^{131}.

Treatment of Cancer of Tongue and Its Cervical Metastases with Irradiation. C. L. Martin. South. M. J. **47:**1-9 (Jan.) 1954.

Between 1936 and 1948, 94 patients with cancer of the tongue were treated with irradiation by heavily filtered low intensity radium needles for the tongue lesions and combined radium needle and roentgen ray therapy for metastatic cervical lymph nodes. A five year cure was obtained with this nonsurgical method in 30 (32%) of the 94 patients. Complete healing of the primary lesion in the tongue was observed in 67 patients (71.2%). Fifty-six (59.2%) of the 94 patients had palpable cervical lymph nodes; a satisfactory result was observed after five years in 10 (17.8%) of these patients in whom block dissections were not done. The nodes completely disappeared in 39 (70%) of the 56 patients, and death was due to other causes in many of them. The palliative value of the irradiation method used by the author is indicated by complete healing of the primary lesions and disappearance of nodes in approximately 70% of the patients treated.

Late Lesions of Bladder 22 Years After Irradiation. G. Oehlert. Zentralbl. Gynäk. **75:**1487-1492 (No. 38) 1954. (In German.)

Oehlert presents the history of a woman who in 1930 and 1931, at the age of 39 had received radium and roentgenray treatment for carcinoma of the cervix. Twenty-two years later, in 1952, a vesicovaginal fistula was found. It is assumed that the fistula resulted from a secondary necrosis of the bladder wall and of the vesicovaginal septum, which in turn resulted from a gangrenous cystitis in tissue that had been damaged by irradiation.

ANESTHESIA

Cardiac Surgery Under Hypothermia. C. P. Bailey, B. A. Cookson, D. F. Downing and W. B. Neptune. J. Thoracic Surg. **27:** 73-95 (Jan.) 1954.

Cardiac surgery was performed during artificial hypothermia on four adult patients between the ages of 27 and 33 years and on nine children between the ages of 11 days and 15 years. The most satisfactory method of inducing hypothermia is provided by a rubber blanket with internal coils for the circulation of cold liquid placed on the operating table and closed about the patient with a zipper. When the desired temperature, preferably between 74 and 80 F, is reached, the blanket is opened but is left in place under the patient while the operation is carried out. After completion of the surgical intervention, the cold fluid is replaced by warm water and the patient is warmed to a level at which respiration is spontaneous and adequate. Closed or digital intracardiac surgery was performed on 9 of the 13 patients, while the remaining 4 were operated on by an open technique under direct vision. The operative procedure consisted of suture repair defect in two patients, atrioseptopexy in two, resection of infundibular obstruction in one, Brock type of infundibulectomy in one, Brock type of pulmonary valvulotomy in one, switch over anastomosis in three, creation of an atrial septal defect in one, exploration in one, and mitral commissurotomy in one. Four of the children survived atrioseptopexy (atrial septal defect), Brock type of infundibulectomy, Brock type of pulmonary valvulotomy, and suture repair (ventricular septal defect), respectively. The four adult patients and the remaining five children died; death resulted from air embolism in two (both operated on under direct vision), myocardial depression in three, cardiac arrest in three, and vago-vagal reflex in one. The over-all surgical mortality (69.2%) was prohibitive. The possible extenuating factors were the severity of the lesions (five congenital transpositions) and the condition of the patients so operated on. Results, however, showed that by the use of hypothermia the entire circulation can be safely interrupted for a time long enough to open the chambers of the right side of the heart and to perform direct intracardiac surgery. The present risk of arterial air embolism presently interdicts opening the left side of the heart and precludes safe use of an open technique for repair of large septal defects. Hypothermia is dangerous in adults since the myocardium may become fatally depressed. Hypothermia is essentially useful in small children with congenital heart disease involving the right side; it greatly enhances the chance of recovery as an adjunct in the orthodox surgical treatment of very cyanotic children. Hypothermia and open surgery are probably essential for the correction of ventricular septal defects. Combining the success in the treatment of cyanotic lesions and that of interventricular septal defects one is led to the idea and hope of complete correction of both the pulmonic obstruction and the high interventricular septal defect (with an overriding aorta) in selected cases of tetralogy of Fallot.

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BOOK REVIEWS

Diagnosis and Localization of Brain Tumors: A Clinical and Experimental Study Employing Fluorescent and Radioactive Tracer Methods. By George E. Moore, M.D., Ph.D., Director, Roswell Park Memorial Institute, Buffalo, New York. Cloth, $10.50. Pp. 221, with 67 illustrations. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto 2B, 1953.

This interesting monograph presents in detail the author's efforts at localizing brain tumors by substances injected into the blood stream, which lodge selectively in the tumors and are detected by various means. Most of these efforts were futile, but in two instances a certain measure of success was achieved. The first of these was the use of fluorescein, which is detected in the tumor tissue at the operating table when the tumor tissue is exposed to ultraviolet light. Of 109 tumors examined in this way, 101 fluoresced. Inflammatory tissue, cerebral cortex damaged by the application of high frequency coagulating electric current, and cerebral tissue damaged in other ways may also fluoresce. The second method is the use of suitable apparatus for the detection of radioactivity from a concentration of various radioactive substances in brain tumors. The principal substances so used were radioactive diiodofluorescein and radioactive iodinated human serum albumin. Unfortunately, the author's experiences with this method were not too encouraging. It is also unfortunate that he quotes Ashkenazy's statements that the method has a general accuracy of 95% and that with the use of radioactive diiodofluorescein "localization proved to be much more precise than with electroencephalography or with pneumography." Both of these conclusions expressed by Ashkenazy have been repudiated by Davis and his associates after a reexamination of the same material. There is still a need for more accurate and more simple localization of brain tumors. The thoroughgoing investigations reported here will be of great interest and value to all future investigators in this field.

All authors should learn that clarity is the first requirement in any effort to transmit one's observations to others. One of the most inexcusable sources of confusion for a reader is the use of a few letters of the alphabet in place of words. This text is liberally peppered with such abbreviations as BBB, CSFB, DIF, and RIHSA. The small amount of ink and paper saved thereby is not worth the loss of clarity of expression. There are also occasionally phrases that hardly convey a clear idea to the reader, such as "A three 1/m centimeter 1/m in 1/m diameter dural flap was turned." What possible excuse is there for not stating the size of the dural flap in simple terms?

The Story of Rush Medical College. By Ernest E. Irons, M.D., Ph.D., Cloth, Pp. 82, with illustrations. Board of Trustees, Rush Medical College, Chicago, 1953.

The author is eminently qualified to write about Rush Medical College. He was the dean for many years and for many additional years was a prominent member of the faculty; he is also a past president of the American Medical Association, as other Rush faculty members have been. Rush Medical College grew up with Chicago, having received its charter from the state of Illinois in 1837, a few days before a charter was granted to the city of Chicago. In this small volume are pictures of the various locations of the college, which changed as the city grew; one of these changes was necessitated by the great Chicago fire in 1871. Rush finally was located on the west side at Wood and Harrison streets, across from Cook County Hospital, where many of its graduates vied in strenuous examinations for internships. Here the buildings stand today, along with the Central Free Dispensary, where the students learned much of their clinical medicine. It is heartwarming to Rush alumni to hear the older citizens still speak affectionately of Rush, deeply appreciating its service to the community.

Rush Medical College was founded by Dr. Daniel Brainard, who came to Chicago from New York. He named the college in memory of Dr. Benjamin Rush of Philadelphia, a renowned clinician and a signer of the Declaration of Independence. The first college building was on a lot donated by the citizens at Clark and what is now Grand Avenue, only one block from the present headquarters building of the American Medical Association. Dr. Brainard also selected the first faculty, among whose members were such famous names as Dr. Austin Flint Sr., later professor of medicine at Bellevue in New York; Dr. John Evans, later territorial governor of Colorado and a founder of Northwestern University; and Dr. Nathan Smith Davis, who had initiated a movement in New York that resulted in the founding of the American Medical Association. Dr. Davis and a few others later withdrew from the Rush faculty and founded a medical college that in time developed into Northwestern University Medical School. Throughout the years the faculty had among its members outstanding clinicians, surgeons, pathologists, bacteriologists, and other specialists; indeed, some of the great names in medicine. With cholera unheard of in the Midwest today it is an interesting fact that the founder of Rush College died in 1866 in the last severe outbreak in Chicago. The vacant chair of surgery was soon filled by Dr. Moses Gunn, who came from Ann Arbor, Mich.

After the Chicago fire of 1871, in which the college buildings north of the river were destroyed together with many of the records and the museum, the County Hospital and the Chicago Medical College generously offered quarters in which Rush might continue until a temporary building on the south side was erected. There it remained until moved to the west side near the new Cook County Hospital. Rush College interested the Presbyterian Church in building a hospital adjacent to its building, the first section of which was opened in 1883. Throughout the remainder of its undergraduate career, Rush was closely associated with the Presbyterian Hospital. When Rush became affiliated with the University of Chicago on the south side in 1898, the understanding was that "the University was left free to establish an independent medical school if that should seem later the wisest thing to do." Before the affiliation was approved, a $73,000 debt of the college was paid off by subscriptions from the college faculty. Later, the faculty and friends, contributed funds to build Senn Hall, an addition to the older college building, but, from about 1898 on, the first two years of the undergraduate course were carried on at the University of Chicago. While the proposal for an organic union with the University was under consideration, it was agreed that the clinical work must have an initial endowment of at least 1 million dollars. Within a year pledges for nearly that amount had been secured, almost entirely by Dr. Frank Billings, then the dean of Rush, and William Rainey Harper, president of the university. Dr. Harper's untimely death was a fatal blow to some of the proposed plans for the two institutions. Meeting new and advanced requirements for entrance to medical schools about that time, Rush was so pressed for economies that many of its teachers who had been receiving small stipends now served willingly without pay.

In 1917 the university announced a plan to establish departments of medicine and surgery on the south side and a gift of a million dollars from the Billings family for the erection of a hospital on the Midway. The old Rush College building on the west side was replaced in 1924 by a new building (donated by Mr. Frederick H. Rawson of Chicago), which also had direct communication with the Presbyterian Hospital. Undergraduate teaching was continued at Rush, even though according to the university plan it was ultimately to become a graduate school. The alumni protested the impending loss of the name of Rush, and members of the faculty still hoped that the university program might be altered to retain the college, with its magnificent hospital facilities, as the site of undergraduate teaching. However, financial interests in the East apparently informed the university that in the event of approval of the change in plans

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so as to retain Rush as an undergraduate school, financial support needed by the university would be withdrawn. With the completion of the faculty and hospitals providing the four year course on the university campus, there was no further need for Rush as an undergraduate school. Dr. Irons writes that the obvious solution seemed to be the dissolution of the union of the university and Rush and the establishment of relations with the medical school then growing just beyond the County Hospital. This realignment of medical facilities was accomplished in June, 1941; thus, after more than 100 years of undergraduate teaching, the college entered into a new relationship with the medical school of the University of Illinois. Rush still has its charter and a board of trustees, to whom and to Dr. Irons the alumni especially are grateful for this book.

Kinsey's Myth of Female Sexuality: The Medical Facts. By Edmund Bergler, M.D., and William S. Kroger, M.D., Associate Clinical Professor of Gynecology, Chicago Medical School, Chicago. Cloth. $3.75. Pp. 200. Grune & Stratton, Inc., 381 Fourth Ave., New York 16, 1954.

This volume with its rather sensational title will not fully allay the excitement caused by the Kinsey report, "Sexual Behavior in the Human Female." Largely because of the unfortunate lay publicity given the Kinsey report, the vulgar-minded and the innocently curious have eagerly searched its pages for exciting revelations. The serious reader seeking knowledge rather than sex excitement has been confused, disappointed, and occasionally dismayed. Many have thought that authoritative clarification, criticism, and refutation of certain claims should be undertaken. This is something that science, sex, and the human female have a right to demand. In "Kinsey's Myth of Female Sexuality," Bergler, a psychiatrist, and Kroger, a gynecologist, have vigorously pursued this task. This book abounds in criticism and refutation, but in the matter of clarification it is often wanting.

The authors justly allege that Kinsey has discussed many difficult medical problems without the medical knowledge and clinical experience necessary to an understanding of the principles involved, that he has virtually overlooked the profound influence of the psychological aspects of sex behavior, and that, without training and experience in psychiatry, he has exhibited an utter disregard of the sexual neuroses with their multifaceted evil effects. Attention is called to the fact that a normal person's sex life is a deep, dark secret, and Kinsey's premise that his volunteers tell the truth is brought under question. The authors indicate that otherwise reliable persons are unreliable when induced to talk about sex, and that even when persons are paying for advice it may require months for the psychiatrists to discover "deliberate concealments and partial revelations presented as the whole." The authors also indicate that the typical woman in our culture responding to inquiries about sex life would say "Mind your own business," and that Kinsey's volunteer guinea pigs are suspect, and that their compliance may be based on hidden designs growing out of sex neuroses. Quite properly, they claim that normally female sex life is based on the hope of marriage, tender love, and motherhood, and they emphasize the fact that these features do not appear in the Kinsey report. It is claimed that lack of knowledge of dynamic psychiatry led Kinsey astray and that he did not realize that his volunteers were willing to talk because they were neurotic. They were the victims of an inner guilt and welcomed the opportunity to exploit the alleged universality of sexual deviations such as they confessed. Thus, they were bribing their consciences through sex neuroses. The authors make much of the vaginal orgasm and claim Kinsey's disregard of this factor is due to lack of knowledge of the anatomy and physiology of the vaginal walls.

The text contains numerous well-sustained arguments designed to reveal fallacies in Kinsey's claims and statistical findings. Space will not permit a detailed discussion of all apparently valid criticisms and refutations. About one-third of the volume is devoted to an exhaustive documented discussion of the 12 premises, claimed to be false, in Kinsey's methodology. An intelligible account of these errors of methodology cannot be included in this review.

Unfortunately, the average reader would find much of the text difficult to read. He would need a psychiatric dictionary at hand, and in some instances he would need another dictionary (nonexistent) to explain some of the psychiatric dictionary's definitions. Since the subject of sex behavior in the human female is now so prominently before the profession and the public, physicians, other scientists, and public health workers who have read the Kinsey reports should also read this critical commentary on his work.

General Virology. By S. E. Luria, Professor of Bacteriology, University of Illinois, Urbana. Cloth. $8.50. Pp. 427, with 94 illustrations. John Wiley & Sons, Inc., 440 Fourth Ave., New York 16; Chapman & Hall, Ltd., 37-39 Essex St., Strand, London, W.C.2, 1953.

This small textbook is written from the point of view of a general biological approach to viruses. This approach is similar to the one that considers bacteriology as a biological science. The material is presented from the point of view of the geneticist, plant physiologist, or biochemist, rather than that of a practitioner of medicine. No viral diseases as such are described. The central concept is of viruses as operating constituents of functional cells. In this respect the virus lives the life of the host. At the same time, viruses are inert particles that have been extensively studied by physicochemical methods in their purified state. Indeed, when they are highly purified and crystallized they seem to bridge a gap between inanimate and living things.

Various chapters deal with the detection and identification, measurement of size, and chemical composition of viruses. The reaction of viruses with their plant and animal hosts, resulting in the production of inclusion bodies, and other tissue reactions are described. Two chapters are devoted to the bacteriophage-bacterium system. A chapter of interest to physicians discusses tumors produced by viruses. These studies, as they are continued, should give clues to the make-up and the integration of cells. The serologic aspects of both plant and animal virus studies are reviewed. A philosophical chapter discusses the thesis that viruses represent the result of a regressive evolution from free living cells. Since rickettsias are also obligate intracellular parasites, a chapter is devoted to their relationship to viruses. The general biological properties of variation, reproduction, the effect of changes of environment, and exposure to radiation are spread throughout the text. Excellent electronmicrographs are used as illustrations. An alphabetical bibliography of nearly 700 references is found at the end of the book.

From Fish to Philosopher. By Homer W. Smith. Cloth. $4. Pp. 264, with 12 illustrations. Little, Brown & Company, 34 Beacon St., Boston 6, 1953.

In this volume, the author of such scholarly works as "Physiology of the Kidney" and "The Kidney: Structure and Function in Health and Disease" presents a popular account of the evolutionary history of the kidney in vertebrates. Stressing the importance of the kidney in maintaining the internal environment of the body by the processes of glomerular filtration and tubular absorption and excretion, Dr. Smith describes the various evolutionary modifications in the organ's structure that have permitted the progressive development of fresh-water, marine and land vertebrates. Consideration is also given to the evolutionary development of the nervous system, since it plays a vital role in the adaptation of the organism to its environment, which culminates in the development of the human cerebral cortex. This entertaining book is highly recommended.

Ophthalmic Medicine and Surgery with Sight-Testing (a Practical Handbook on Eye Diseases in India and the Tropics). By M. A. Kamath, M.B. & C.M. Third edition. Cloth. 12 rupees. Pp. 416, with 73 illustrations. Kothari Book Depot, Parel, Bombay 12, 1953.

The author's purpose is to convey to the general practitioner, even in the remotest village, adequate knowledge of the eye to enable him to give relief to the suffering inhabitants of the village and to prevent blindness. The procedures, methods, and operative techniques and medicaments are in keeping with the standards in use in India and for certain diseases that are endemic in that country.

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Stress Incontinence in the Female. By John C. Ullery, M.D., F.A.C.S., F.I.C.S., Obstetrician and Gynecologist, Pennsylvania Hospital, Philadelphia. Cloth. $6.75. Pp. 149, with 82 illustrations. Grune & Stratton, Inc., 381 Fourth Ave., New York 16, 1953.

Although the involuntary loss of urine designated as stress incontinence is not entirely confined to older women, it is apparent that, because of the increasing number of older women in the population, the diagnosis and cure of this condition is becoming a more important problem each year. It is difficult to review this volume without becoming overly enthusiastic. It is refreshing to find an author who has undertaken a monograph on the cause, diagnosis, and treatment of a common clinical condition in women by first clarifying the very complex and, until recently, poorly understood anatomic and physiological principles associated with the disorder. The embryology and anatomy of the female urethra and associated structures is set forth in such detail that many formerly controversial points seem definitely settled. In addition to the author's original contribution, he presents a comprehensive review of the literature in a readily understandable manner.

Dr. Ullery presents what is known about the physiology of micturation and urinary continence in women and gives a reasonably simple explanation for stress incontinence. The direct and differential diagnosis of this condition is carefully and completely covered. The treatment, prophylactic, nonoperative, and surgical, is discussed in detail but not repetitiously. Every known procedure is described and accurately illustrated by good halftone drawings. This work represents the most authoritative and complete treatise on the subject in any language, and it should be in the possession of every gynecologist, urologist, surgeon, anatomist, and physiologist who is interested in this ever-increasing condition.

Diagnosis of Acute Abdominal Pain. By William Requarth, M.D., Clinical Assistant Professor of Surgery, University of Illinois College of Medicine, Chicago. Foreword by Warren H. Cole, M.D. Cloth. $5. Pp. 243, with 79 illustrations. Year Book Publishers, Inc., 200 E. Illinois St., Chicago 11, 1953.

In selecting a title, the author seems to have done his book less than justice. The work is in fact a concise monograph on the diagnostic management of the abdominal emergency. As such, it includes a good deal of basic pathology and even of principles of treatment and contains a chapter so far removed from its ostensible subject matter as the differential diagnosis of acute gastroesophageal hemorrhage. Since this small volume is an essay rather than a reference work, it should be read through as an essay, from the opening sentence ("The contour of the normal abdomen is scaphoid after double the thickness of the subcutaneous fat pad has been subtracted") to the last ("Hemorrhage may occur at any time during jaundice when there is an associated prothrombin deficiency"). These two quotations are typical of the whole work, which is authoritative with the stamp of personal experience, admirably lucid, and just sufficiently dogmatic to be instructive without causing offense to the reader who has his own beliefs. It is refreshing to read in a modern text that "aside from the x-ray, which is of great value . . . few laboratory tests are necessary," and the book is studded with items of clinical wisdom tersely expressed, for example: "Measurements of abdominal wall rigidity with a tensiometer indicate that unilateral rigidity is a clinical illusion unless associated with a mass. . . . A frequent cause of diagnostic error in a heavy individual is a small incarcerated femoral hernia which is not apparent on superficial examination. . . . Rupture of the spleen should be suspected in all patients with rib fractures on the left."

The arrangement of the subject matter is novel. Instead of using the normal type of classification based on clinical frequency or pathological causes, the author considers those groups of cases for which immediate operation is imperative, for which operation can be delayed, and for which operation is contraindicated or harmful. Intestinal obstruction is given a separate chapter, and there are chapters on examination, differential diagnosis from the standpoint of location and type of pain, abdominal wounds, abdominal lesions in infants, and acute gastroesophageal hemorrhage. This arrangement, which might be clumsy and repetitive in a reference work, is eminently suited to the purpose of this book. The illustrations, mainly abdominal roentgenograms, are useful and well reproduced. There is a good bibliography and an adequate index.

There is little in this book to criticize. The plural of exanthema is not "exanthematas" (page 29). The purist might cavil at the statement: "70 per cent of cases of ectopic pregnancy have a sudden onset" (page 104). Many surgeons may disagree with the suggestion that strangulation in mechanical intestinal obstruction can be diagnosed with a "high degree of accuracy" (page 57) and particularly with the implication that this may justify nonoperative treatment, but these are minor criticisms of an otherwise excellent little book, which can be recommended not only for the information of students, general practitioners, and surgical trainees but also to crystallize the knowledge of the experienced surgeon. He may learn from it nothing new, but he is not likely to have seen the subject so well presented.

The Cutaneous Manifestations of Systemic Diseases. By John Godwin Downing, M.D., Professor of Dermatology and Syphilology, Tufts College Medical School, Boston. Publication number 182, American Lecture Series, monograph in American Lectures in Dermatology. Edited by Arthur C. Curtis, M.D., Chairman, Department of Dermatology and Syphilology, University of Michigan, Ann Arbor. Cloth. $4.25. Pp. 146, with 52 illustrations. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto 2B, 1954.

This monograph is a compilation of 12 lectures given to various groups of medical students. Its purpose is to stimulate the young physician to an increased knowledge of dermatology and to emphasize to the young dermatologist the relationship between the dermatoses and systemic disease. It is written in comparatively simple fashion, and its condensed form should aid the candidate for a specialty board examination. Most of the material is recent and incorporates many new theories integrating the major dermatoses with modern medical concepts. The author has proved his point that a study of cutaneous eruptions not only enables the physician to exercise his powers of observation and deduction but also improves his diagnostic ability. The typography and the illustrations are excellent, and the bibliography gives the most important sources of general information in the field.

You and Your Skin. By Norman R. Goldsmith, M.D., Dermatologist, St. Joseph's Hospital, Lancaster, Pennsylvania. Cloth. $3.75. Pp. 148, with 6 illustrations. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto 2B, 1953.

This book is written primarily for the lay reader, although it contains some information of value to others who wish dermatological orientation. Thirty-one short chapters provide discussions on the structure of the skin and its functions, the relation of general health to the skin, cutaneous allergy, cosmetics, infections of the skin, disorders of its appendages, and other problems of a similar nature. The book presents a readable and not overly technical account for those interested in their skin problems. It is not intended as a primer or textbook for medical students or others who require detailed and specific information of a dermatological nature. The few illustrations are well selected. The printing and binding are also of good quality.

Historical Aspects of Organic Evolution. By Philip G. Fothergill, B.Sc., Ph.D. With foreword by J. W. Heslop Harrison, D.Sc., F.R.S., F.R.S.E. Cloth. $6. Pp. 427, with 10 illustrations. Philosophical Library, Inc., 15 E. 40th St., New York 16, 1953.

In this book, the author traces the development of the concept of evolution in the minds of naturalists from the ancient Chinese, Babylonian, and Egyptian cultures to the present day. Four historical periods are dealt with: the early period culminating with Aristotle; the speculative period dominated by the philosophers of the 17th and 18th centuries; the formulative period of the 19th century embracing the work of such biologists as Erasmus, Darwin, Lamarck, Cuvier, and Wallace; and the modern experimental period, which dates from the rediscovery of Mendel's work in 1901. In this section, emphasis is placed on the relationship of evolution and genetics. The appendix contains supplementary technical material and an extensive bibliography. This book should appeal to those interested in the philosophical and historic approaches to biology.

QUERIES AND MINOR NOTES

WORKSHOPS FOR THE CHRONICALLY ILL

To the Editor:—*Where is any literature available on "sheltering" workshops for the aged and the chronically ill?*

Herman I. Switkes, M.D., Kecoughtan, Va.

Answer.—Information may be obtained from the National Association of Sheltered Workshops and Homebound Program; the secretary is Miss Elizabeth Maloney, Industrial Home for the Blind, 520 Gates Ave., Brooklyn 16. The Committee for the Care of the Jewish Tuberculous, 71 W. 47th St., New York 36, operates Altro Workshops and has, through its director, Mr. Edward Hochhauser, contributed much to the literature on this subject of tuberculous and cardiac patients and older persons who are handicapped. The "Social Work Year Book" for 1947, 1949, and 1951 has articles on this subject with excellent bibliographies. Dr. Julius Weil, director of the Montefiore Home for the Aged in Cleveland has made several presentations on the subject of sheltered workshops in a home for the aged. The Community Service Society for many years operated a sheltered workshop for older persons, and requests for specific information from that agency (105 E. 22nd St., New York 10) directed to the attention of Miss Ollie A. Randall will receive prompt attention. The Goodwill Industries of America, Inc., with headquarters at 744 N. 4th St., Milwaukee 3, also has a great deal of information that could be useful to the inquirer.

GROWTH IN CHILDREN

To the Editor:—*Is there a hormonal preparation that will promote growth in children?*

Juliette M. Herzberg, M.D., Clinton, Ind.

This inquiry was referred to two consultants whose respective replies follow.—Ed.

Answer.—A specific answer to such a question is difficult to give. If the questioner is referring to the millions of children who wish they were taller, or whose parents wish they or their children were taller, then the answer is certainly "No!" Not too many of us are entirely satisfied with our own or our childrens' physiques. We wish they were taller or smaller, had curly or straighter hair, had larger or smaller breasts, larger or smaller hips, and so on. It is ridiculous for parents, who are, say, 5 ft., 2 in. tall and whose ancestors before them were of comparable size to expect sons 6 ft. tall. It is ridiculous for parents who are more than 6 ft. tall to decry the fact that their 18-year-old daughters are 5 ft. 10 in. tall. No glandular treatment is available that will increase or decrease the height of normal persons. The important contribution of a physician to amelioration of this problem is to help children develop, with a good philosophical and psychological acceptance of their physiques.

It should be added that, if a child has juvenile myxedema, then certainly he or she will grow if thyroid hormone is employed. On the other hand, insofar as known, there has not been a single instance in which any pituitary growth hormone has ever caused any appreciable increase in height in a pituitary dwarf. Whatever growth has been reported has always been reported about patients who do not have true pituitary insufficiency and in whom spurts of growth occur with or without treatment.

Answer.—A purified growth hormone has been developed in the laboratory of Dr. Herbert Evans at the University of California and is prepared commercially by the Armour Laboratories. It produces interesting metabolic changes in man and will produce growth in certain laboratory animals. However, there is no good evidence that it produces growth in man. Some growth can be induced in both boys and girls by the administration of androgen, but this form of treatment is indicated only if sexual maturity does not appear at the usual time. In girls, androgen therapy should be employed with great caution because of the danger of inducing masculinizing changes.

The answers here published have been prepared by competent authorities. They do not, however, represent the opinions of any official bodies unless specifically so stated in the reply. Anonymous communications and queries on postal cards cannot be answered. Every letter must contain the writer's name and address, but these will be omitted on request.

PLASMA VOLUME EXPANDERS AND BLOOD TYPING

To the Editor:—*Does the administration of plasma volume expanders, blood plasma, or electrolyte solutions interfere with the determination of blood types, cross-matching, or Rh determination?*

A. A. De Vittorio, M.D., Reynoldsville, Pa.

This inquiry was referred to two consultants, whose respective replies follow.—Ed.

Answer.—The intravenous infusion of blood plasma and electrolyte solutions does not interfere with the determination of a person's A-B-O group, Rh type, or with the cross-matching test. In the past, it was found that intravenous administration of acacia and gelatin caused rouleaux formation, which sometimes gave rise to confusion in the blood grouping and cross-matching tests. Apparently, a similar phenomenon takes place after the use of the more modern plasma expanders, although reliable information regarding this has not been published. In any event experienced technicians should have no difficulty in distinguishing between rouleaux formation and true agglutination. Since rouleaux formation (or pseudoagglutination) is nonspecific, it should be suspected whenever the same reaction is seen when the patient's serum is mixed with his own cells.

Answer.—Practically speaking, the administration of plasma or of electrolyte solutions will not interfere with immediate or subsequent determinations of blood types, cross-matching, or Rh determinations. Although experience with the synthetic plasma volume expanders has not been great, it has been found in the past that such substances may cause pseudoagglutination. This may cause difficulty with grouping and typing and may interfere to a considerable extent in compatibility testing.

STILLBIRTHS CAUSED BY Rh SENSITIZATION

To the Editor:—*A recent news item stated that an obstetrician had never seen the survival of a child born to an Rh-negative mother who had previously had a stillbirth because of her Rh factor and that with use of cortisone (Cortone) 15 of 18 pregnancies in such women resulted in the birth of live normal babies. Please comment.*

C. W. Henney, M.D., Portage, Wis.

Answer.—The report of the supposed beneficial effects of cortisone (Cortone) in the prevention of stillbirths caused by Rh sensitization does not withstand critical analysis and has not been confirmed by reliable workers. In the first report, it was recommended that the therapy be started two weeks before term, which is obviously ineffectual, since most stillbirths occur at the beginning of the ninth month and some as early as the seventh month. To include these earlier cases, it has recently been advised that the cortisone therapy be started earlier in pregnancy. This is dangerous, since it has been found, at least in animal experiments, that the use of cortisone throughout pregnancy may cause malformations.

The report that 15 out of 18 stillbirths can be prevented by cortisone therapy seems too good to be true. This would imply that the usual stillbirth rate from Rh sensitization, about 15 to 20%, would be reduced to less than 5%. There is no published series of cases of Rh sensitization in pregnancy with such a low stillbirth rate, with or without cortisone treatment.

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The statement that live births do not follow stillbirths in cases of Rh sensitization is incorrect. This idea is based on an early statement that the degree of Rh sensitization increases with each pregnancy. While this statement is true in some cases, it does not hold in all cases, because the way in which Rh sensitization develops varies from patient to patient. Some patients never become sensitized. Other patients may have a high antibody titer and may have a stillbirth as early as the second pregnancy. Still other patients have only a low antibody titer that does not increase in subsequent pregnancies and may even decline, so that such mothers may have several mildly or moderately affected babies followed by one who is apparently normal. In fact, the tendency is for the antibody titer to fall with time, unless leakage of Rh-positive blood into the maternal circulation occurs during a pregnancy and stimulates another rise in titer. Since such leakage of blood occurs in only one out of three pregnancies, it is not surprising that sometimes a stillbirth is followed by a live-born baby. The "classic story" of first a normal baby, then a mildly affected baby, then a severely affected baby, and then a series of stillbirths actually occurs in only a minority of cases. In view of the capacity of cortisone and corticotropin (ACTH) for harm as well as good, it is strongly urged that this treatment not be used in cases of Rh sensitization in pregnancy except where facilities make carefully controlled observations possible and when the findings will be published.

DETERMINATION OF ALCOHOL IN BLOOD AND URINE

To the Editor:—*Please answer the following question pertaining to the determination of blood and urine alcohol. We have the LaMotte-Heise apparatus and reagents for determining blood and urine alcohol concentrations. 1. What is the accuracy of determining the blood and urine alcohol for medicolegal purposes with the LaMotte-Heise procedure? 2. What effect does acidosis have on blood and urine alcohol determinations? 3. What preservative is recommended for urine and blood alcohol determinations that are to be tested several hours later? 4. If the LaMotte apparatus is not accepted in the state of Wisconsin, what procedure is? 5. If a discrepancy in blood and urine alcohol levels is assumed in a given person, the blood level is known to be less than the 0.15% (intoxication) and the urine level is well above 0.15%, what interpretation can be made?*

John D. Lynch, M.D., Manitowoc, Wis.

Answer.—1. The LaMotte-Heise method gives readings that are accurate within 0.01%. 2. Acidosis has no effect on the reading for alcohol. 3. Urine may be preserved for about a year when saturated with benzoic acid and blood may be preserved without coagulation for about one month when sodium fluoride is added, the proportion being about 0.5 gm. to 5 cc. of blood. 4. No state accepts the results of a chemical test solely on the basis of the apparatus used; however, any scientifically accurate method will be accepted if it can be shown that the test was made by a qualified person. The city of Milwaukee has been using this method for 18 years, the conviction rate being about 99% and the number of tests over 16,000. The accepted legal interpretation of chemical tests is as follows: With less than 0.05% in the blood, there is too little alcohol to warrant a diagnosis of "under the influence." From 0.05 to 0.15% is a broad zone that favors the person with unusual tolerance and in which the observed behavior should play a part in the diagnosis. A level of 0.15% or above is considered prima facie evidence of intoxication. It is obvious that a person is not drunk if the concentration is 0.15% and sober if it is 0.14%, but these zones have been designated with so much generosity and leeway that no injustice will be done by a strict mathematical interpretation, although some actually intoxicated persons may escape prosecution. The generosity of the interpretation of the tests can be appreciated when carefully conducted examinations revealed some deterioration of behavior of all persons tested when the alcohol in the blood exceeded 0.03%. 5. With these facts the last question may be answered. The blood level of alcohol is consistently at least three-quarters of the simultaneous level in the urine, unless the level in the urine is too low for medicolegal interpretation. If the urine alcohol concentration is 0.16%, the blood alcohol could be no lower than 0.12% but might be considerably higher depending on how recently the drinking was done. Another specimen of urine taken about 15 minutes later would answer the question of the time of drinking and would permit a truer interpretation of the blood alcohol. If a single urinalysis is made, the fairest interpretation is that prima facie evidence of intoxication occurs with a reading of 0.20% or more, but that the observed behavior of the accused must be considered in diagnosis of intoxication when the alcohol concentration in the urine is between 0.08 and 0.20%.

OIL DERMATITIS

To the Editor:—*Men working on cutting machines that are cooled by vapor from an oil spray of Sultex cutting oil B (made by the Texas Company) have been having follicultitis or acneform rashes. Can you help me in working out a protective or preventive program?*

E. G. McCarthy, M.D., Plainview, Texas.

This inquiry was referred to two consultants, whose respective replies follow.—Ed.

Answer.—Oil dermatitis is due to poor hygienic conditions. It can be prevented by proper hygiene, including an educational program for the employees. The following measures should prevent and clear up the situation: (1) insistence on personal cleanliness, depending on clean clothes, adequate washing facilities, and the use of liquid surgical soap; (2) use of paper towels instead of cloth towels; and (3) use of water-soluble protective creams and other protective equipment as indicated. This program is an inexpensive and satisfactory way of controlling this type of dermatitis.

Answer.—Control of cutting oil dermatitis is easily accomplished when a program of good personal hygiene is instituted for workers exposed to cutting oils. This program entails removal of the cutting oil that may have contaminated the skin twice a day, namely, before lunch and at the end of the work day. This can best be accomplished with a mild soap and plenty of water. The use of protective creams is open to question but may assist in emphasizing the general personal hygiene of the worker. Silicone-containing protective creams appear to have great promise in providing protection to workers who may be exposed to cutting oils. This recent development was reported in the February, 1954, issue of the *A. M. A. Archives of Industrial Hygiene and Occupational Medicine* by Raymond Suskind of the Kettering Laboratory.

USE OF PLASTICS UNDER THE SKIN

To the Editor:—*I read somewhere an article stressing the danger of implantation of plastics under the skin, either to restore lost soft tissues or bone. The article stated that malignant lesions had resulted in enough cases to justify the contention that plastics so imbedded were carcinogenic. If you are acquainted with any such report, please comment.*

Everett V. Dulin, M.D., East Orange, N. J.

Answer.—No plastic materials of any kind should be inserted under the skin for the purpose of rebuilding soft tissues or bone. The consensus of surgeons experienced in this field is that all these materials are eliminated or have to be removed within a short time after the insertion. A decade and more ago the same enthusiasm could be found in the literature with regard to alloplastic substitutes for autogenous material. Only autogenous materials should be used for rebuilding soft or bony structures of the body. This consultant is not familiar with cases in which malignancy resulted from insertion of plastic materials under the skin. However, certain substances, like paraffin, inserted under the skin for reconstructive purposes tend in time to involve the surrounding structures, forming a steadily growing tumor (paraffinoma). Tantalum and Vitallium some years ago received considerable attention as possible supporting materials for the replacement of bony defects. These also were discarded because they were poorly tolerated and were spontaneously eliminated in a few years.

BASAL METABOLISM TESTS

To the Editor:—*What is the accepted routine for determining basal metabolism rates of ambulatory patients and hospital patients? Is it advisable to administer a sedative such as a barbiturate the night before? What effect would a sedative such as 1½ grains (0.1 gm.) of pentobarbital (Nembutal) have on the basal metabolism rate if given the night before? What effect on the ultimate outcome on the basal metabolism test, if any, is noted when patients have to travel some distance to the physician's office or hospital and then rest a while before the test is made?*

Milton Margoles, M.D., Milwaukee.

Answer.—Basal metabolism tests should be done after a rest period of 30 minutes in the recumbent position 12 to 14 hours after the last meal. In most instances a sedative is not administered the night before, but a small dose of a sedative such as 0.1 gm. of pentobarbital would have little effect on the basal metabolic rate. The test is not much, if any, affected by travel of some distance to the physician's office or hospital if there is a rest period before it is carried out.

PAINT ON BABY FURNITURE

To the Editor:—*In painting furniture, which is likely to be chewed by a child, it is planned to use a paint with the following ingredients: titanium dioxide 15%, titanium calcium pigment 32%, soya-alkyd resin 24%, mineral spirit driers 29%, and tinting color less than 5%. Is such a preparation safe for the intended use, assuming that the child will ingest some of this in chewing on the furniture? If such paint is not satisfactory for refinishing baby furniture, can you recommend a satisfactory preparation?*

M.D., Missouri.

Answer.—The formulation described is commendable. Only two minor reservations should be mentioned. As in the case of many synthetic resins, a few persons might become sensitized to the alkyd resin and a dermatitis might appear. In some mineral tinting materials, particularly yellows and greens, lead in the form of the chromate may be utilized. If these colors may be avoided, some additional safety is provided. The introduction of cadmium colors as a substitute for lead is undesirable.

COMPLETE EMPTYING OF BOWELS

To the Editor:—*When there is complete emptying of the bowels (small and large) every 24 hours in the morning before breakfast, is any food value left that might be assimilated if the bowels were not emptied?*

E. L. Cavenee, M.D., Champaign, Ill.

Answer.—There is no food value in the content of the colon after digestion in the small intestine.

CANCER IN RETAINED CERVICES

To the Editor:—*In the Jan. 30, 1954, Journal, page 461, an inquiry from Dr. R. B. Robins asks, "With reference to the controversy about total hysterectomy as opposed to subtotal hysterectomy, in what percentage of retained cervices does carcinoma develop?" The exact incidence is not known as answered by two consultants. It is possibly 2.5 to 4%. That is not the point. The point is that each and every stump carcinoma is a preventable one and prevention is the best treatment. In the past five years at least 25 carcinomas of cervical stumps were seen in the Memorial Center for Cancer and Allied Diseases in New York. A good percentage of these were not controlled. Had these patients received total hysterectomy instead of the subtotal operation, they could not have had cancer of the cervix. The indications for subtotal hysterectomy are very few indeed, and in general the operation should be considered obsolete.*

Alexander Brunschwig, M.D.
444 E. 68th St., New York 21.

CONGENITAL BLINDNESS

To the Editor:—*In the Jan. 23, 1954, Journal, in Queries and Minor Notes, there was a question about the inheritance of blindness. In the answer it was hypothesized that the man had both of the recessive genes for hydrophthalmos. It was then stated that, if the woman he married happened to be heterozygous for the condition, the offspring would show hydrophthalmos in a ratio of 1 in 4 births. It seems to me that, if just one pair of genes is involved in producing the condition, the condition should occur in a ratio of 1 in 2 births. The offspring will receive a recessive gene from their father, since that is all he can give (unless mutation occurs). The gene that is received from the mother will be either the dominant or the recessive gene. If it is assumed that one is as likely to be given to the offspring as the other, the gene probably will be recessive in 50% of the offspring and dominant in 50% of the offspring. Thus we may diagram the offspring as follows: g_r is one of the father's recessive genes; g_r is the other of the father's recessive genes; g_r is the mother's recessive gene; and G_d is the mother's dominant gene. The offspring may be of the following phenotypes and genotypes with the following frequencies:*

Phenotypes	*Genotype*	*Frequency*
Glaucoma	g_rg_r	*1*
Glaucoma	g_rg_r	*1*
No glaucoma	g_rG_d	*1*
No glaucoma	g_rG_d	*1*

By similar reasoning it would seem that, if the man were heterozygous for congenital cataract and the woman were homozygous for the condition, the expected ratio of occurrence of congenital cataract would be 1 in 2 offspring.

Doris Schoon, senior medical student
225 E. Comstock Hall
University of Minnesota
Minneapolis 14.

The above letter was submitted to the consultant who answered the original inquiry who replied, in part, as follows: The senior medical student is entirely correct. The ratio should read 1 to 2 instead of 1 to 4. The genetic principles involved are admirably presented in the student's letter.

REMOVAL OF CERUMEN

To the Editor:—*In The Journal, Aug. 15, 1953, R. T. Hood of Craig, Ala., inquires about removal of impacted cerumen from ears. He does not seem to get much help from the answer. My own method does not require any extraordinary skill. The gummy wax cannot be softened quickly. I give the patient an ounce of 5% sodium bicarbonate in glycerin and have him instill a few drops three times a day for one week, when he is instructed to return. At that time the character of the wax is entirely different. It can be readily broken up with a gentle stream of water; however, I use 1:5,000 benzalkonium chloride (Zephiran) solution. The patient suffers no pain, and the ear is thoroughly cleaned.*

Lyman C. Blair, M.D.
1212 Rothwell St., Houston 10, Texas.

To the Editor:—*In The Journal, Aug. 15, 1953, R. T. Hood requested information on the removal of impacted cerumen from the external auditory canal. The answer to his query was hardly satisfactory. For years I have been resorting to the use of a solution of 5% sodium sulfate with 10% Tide, a modern detergent. A quarter of an ounce is given the patient with instructions to drop it in the ears several times a day for 24 to 48 hours. After this treatment the mass is completely softened and macerated and is removed by one or two syringefulls of tepid water. All exfoliated epidermis is removed also. While this procedure requires a second visit to the office, the danger of abrasion of the canal with subsequent infection is entirely avoided and the ease of removal is most satisfactory to both patient and physician.*

Jay G. Roberts, M.D.
1708 N. Garey Ave., Pomona, Calif.

V 15
1954

Regardless of origin, vertigo may be favorably influenced by Dramamine, and a therapeutic trial is indicated.

Dramamine® in Vertigo

The remarkable relief afforded by Dramamine in motion sickness has led to studies of its possible value in allied conditions.

Dramamine apparently depresses hyperstimulation of the vestibular apparatus. Thus it is an effective means of relieving the nausea and vertigo which characterize dysfunctions of the middle ear.

Accepted uses for Dramamine (brand of dimenhydrinate) are motion sickness; nausea and vomiting associated with pregnancy, drugs (certain antibiotics, etc.), electroshock therapy, narcotization; vestibular dysfunction associated with streptomycin therapy; vertigo in Ménière's syndrome, hypertensive disease, fenestration procedures, labyrinthitis and radiation sickness.

Dramamine is available in tablets, 50 mg., and liquid, 12.5 mg. per 4 cc. It is accepted by the Council on Pharmacy and Chemistry of the American Medical Association. G. D. Searle & Co., Research in the Service of Medicine.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 N. Dearborn St. Chicago 10, Ill.
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One taste tells the story. Here is the high protein nourishment patients will delight in drinking...the sure route to *extra* nutrition whenever required, for all ages.

Let us send *you* a one-pound can for your own taste-test.

HIGH PROTEIN

and it tastes good

In the management of medical and surgical convalescence, debilitating diseases, geriatric nutritional imbalance...you immediately seek to increase the patient's protein intake.

More and more physicians are finding the answer in MERITENE—the fortified whole protein supplement that patients *like to take.* Its good taste assures that.

Therapeutic values abound in a Meritene Milk Shake: high quality protein without the burden of bulk...more of all other important vitamins and minerals than in an equal amount of Eggnog. Yet Meritene Milk Shakes cost *less.*

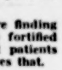
Write for a free one-pound can . . . or mail coupon below.

MERITENE vs. EGGNOG
Nutritive Value Comparison

	EGGNOG	MERITENE MILK SHAKE
Protein	12.5 gm.	15.8 gm.
Fat	12.6 gm.	8 gm.
Carbohydrate	17.7 gm.	25.5 gm.
Calcium	.24 gm.	.5 gm.
Phosphorus	.27 gm.	.4 gm.
Iron	1.5 mg.	4.4 mg.
Vitamin A	843 I.U.	1745 I.U.
Thiamine	.12 mg.	.7 mg.
Riboflavin	.45 mg.	1.6 mg.
Ascorbic Acid	2.0 mg.	26.4 mg.
Cholesterol	288 mg.	21 mg.
Calories	233	237

Eggnog nutritive values from "Food Values of Portions Commonly Used." Bowes & Church, 1951.

THE DIETENE COMPANY MA-4174
3017 Fourth Avenue South,
Minneapolis 8, Minnesota



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In fact, anything but personal classified ads.

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Journal A.M.A., 535 N. Dearborn St., Chicago 10

NOTICE

WANTED—SANDUSKY CITY AND ERIE COUNTY, Sandusky, Ohio; population 52,000; small county; located on Lake Erie; 1, physician; health commissioner; minimum salary $8000 plus car expense; 2, supervising nurse; minimum salary $4200 plus car expense; 3, 2 public health staff nurses; minimum salary $2880 plus car expense.

ASSISTANTS WANTED

WANTED — ASSISTANT; CENTRAL CALIFORNIA; general practice; excellent hospital, schools and churches; surgical training required; 3 doctor group; salary open or percentage. Box 6518 B, % AMA.

PHYSICIANS WANTED

MEDICAL CHEST DISEASES—ASSISTANT PHYSICIAN; graduate of American medical school or licensure in State of California required; 200 bed service in hospital with complete medical and surgical facilities for treatment of tuberculosis and other chest diseases; active teaching program and encouragement of research; salary $500 with maintenance for single physician, or $600 without maintenance. Address inquiries to: A. Goldman, MD, Chief, Professional Services, City of Hope Medical Center, Duarte, California. C

MEDICAL ADMINISTRATOR—FOR COMBINED HOSPITAL-health department in southern Michigan; unique opportunity to direct integrated unit, 65 hospital beds and excellent county health department serving 27,000 population; physician must be eligible for Michigan license. For details write: Section of Local Health Services, Michigan Department of Health, Lansing, Michigan. C

POSITIONS OPEN AT ALL LEVELS—IN TUBERCULOSIS and mental hospitals of southern state engaging in developing program of building construction and improved patient treatment; specialist training desirable, but not necessary; Board qualified men sought as clinical directors and teachers; licensure available to American graduates. Box 6605 C, % AMA.

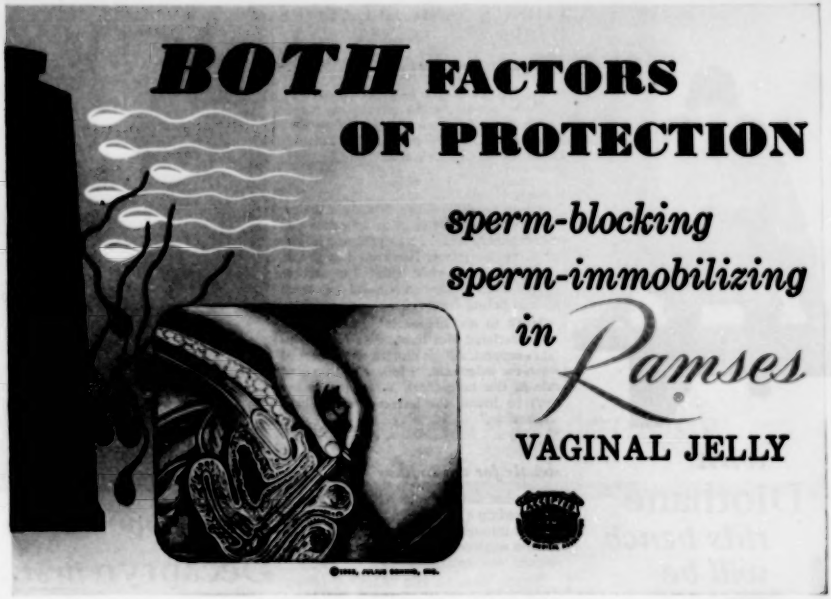
GENERAL PRACTITIONER—SMALL TOWN NORTH-central Florida; unopposed practice; open staff hospital nearby; excellent climate, hunting and fishing; pay equity and assume monthly payments home and office combined. Box 6607 C, % AMA.

WANTED — INTERNIST; BOARD CERTIFIED OR qualified; to associate with established northern Minnesota clinic; good hospital facilities; fine schools and churches; guarantee with partnership offered; excellent opportunity. Box 6601 C, % AMA.

WANTED — ASSISTANT PHYSICIANS; SALARY $5160-$6600; large eastern state mental hospital; approved; excellent teaching program; training for Boards. Box 6579 C, % AMA.

(Continued on page 56)

V 154
1954



- Occludes the os uteri for at least ten hours after coitus
- Immobilizes sperm in the fastest time recognized by the official Brown and Gamble technic
- Maintains necessary viscosity at body temperature
- Does not decompose or separate while stored

Supplied in 3-oz. tubes with a sanitary, durable plastic applicator designed to deliver 5 cc. of jelly in front of the os uteri. Also in large, economy-size 5-oz. tubes.

A recent report by Gamble[1] directs attention to *viscosity* and *barrier effectiveness* as important considerations in the selection of a contraceptive jelly.

"To give efficient obstruction [to spermatozoa]... the material should be sufficiently fluid to spread throughout the vagina and establish a barrier over the os uteri. It should not, however, be so liquid as to leak out of the cavity or be too readily displaced from the os by coital or post-coital movements." RAMSES Vaginal Jelly* fulfills these criteria.

Fig. 1. Photo taken after insertion of RAMSES Vaginal Jelly. Os occluded.

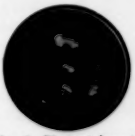


Fig. 2. Photo taken ten hours after coitus. Occlusion still manifest.

Jelly stained with non-spermatocidal concentration of methylene blue for photographic purposes.

*Active agent, dodecaethyleneglycol monolaurate 5%, in a base of long-lasting barrier effectiveness. 1. Gamble, C. J.: Report to Council on Pharmacy & Chemistry, A.M.A.: J.A.M.A. 153:1019, 1953.

gynecological division
JULIUS SCHMID, INC.
423 West 55th Street, New York 19, N.Y.
quality first since 1883

with
Diothane
this bench will be more comfortable ...longer

Diothane provides a long-lasting cushion against hemorrhoidal pain. Its profound local anesthesia blends into a prolonged period of analgesia. *Write Merrell for several tubes of Diothane Ointment* for your trial use. Prescribe Diothane . . . "the cushion that comes in a tube."

Diothane®
ointment
with oxyquinoline benzoate.
(Brand of diperodon)

Pioneer in Medicine for 135 Years

Merrell SINCE 1828

The Wm. S. Merrell Company
New York CINCINNATI St. Thomas, Ont.

TONICS AND SEDATIVES

♠

my favorite story

In this space will be published anecdotes submitted by physicians concerning their practice or people in general. Contributions for "My Favorite Story" are welcome.

♠

Up in the Blue Ridge Mountain region, a young lady gave birth to a healthy son and promptly accused a neighboring farmer of being the father. However, this gentleman had an air-tight alibi. The records proved that he had been released only three months before from prison.

Much to his amazement, however, the judge declared him responsible for the infant's support. All his protests were silenced when the judge said, "I follow an iron clad rule in this here court. When the maker can't be found, the last endorser is held responsible."

♠

strictly for the Indians

A doctor in Oklahoma tells of an Indian who lived on a reservation and had become famous throughout the state. Every day he made a weather prediction, and his batting average was amazingly high.

Usually when he said "Rain," it rained. When he said "Fair weather," you could depend on the sun shining. The farmers in the vicinity came to depend on him.

One day one of the farmers asked him whether he thought it would rain the following day. The Indian shook his head sadly and said, "No can tell. Radio busted."

♠

Recently in Washington, D. C., the Department of Indian Affairs received a letter from an earnest young lady up in Vermont.

In brief, her letter said, "Please send me at once your free booklet on Indian affairs as I have long desired to have an affair with an Indian."

♠

This story is told by one of the Government's top labor mediators. Recently in a strike in the southwest he had to negotiate with a Sioux Indian. The Indian represented over 1,500 strikers, presented his demands in writing, and would not yield an inch. For two days the only answer the labor mediator could get at the end of each of his pleas was, "Ugh."

Finally the mediator had a conference with the owners and approached the Sioux again. "The owners are now willing to grant a $2-per-day increase in pay."

Once again the Sioux said, "Ugh." But this time he said, "Are they willing to make it retroactive?"

♠

medical knowledge?

Another source of unwitting humor is the examination papers of aspiring student

(Continued on page 54)

prescribe
Decapryn *first*...
for food allergies

Among the antihistamines, of course, there is no *one drug* of choice. Patients respond differently to the antihistamines in the various chemical groups.* But when you select a member of the high-potency group, prescribe Decapryn first. You can expect *long-lasting* relief . . . at low milligram dosage, with few side actions. *Available on prescription only*, in 12.5 mg. and 25 mg. scored tablets, or pleasant tasting Decapryn Syrup.

*Feinberg, A. R. The antihistamines in treatment of allergic disease. Postgraduate Med. 13:260 (March) 1953.

Decapryn®
Succinate *(Brand of Doxylamine)*

Pioneer in Medicine for 125 Years

Merrell SINCE 1828

®T.M.

The Wm. S. Merrell Company
New York CINCINNATI St. Thomas, Ont.

A. M. A.
ARCHIVES OF
OTOLARYNGOLOGY

new facts . . .

new skills in Otolaryngology

If you are an Ear, Nose and Throat man you should not be without a monthly subscription to A.M.A. archives of OTOLARYNGOLOGY. It serves as a veritable "silent partner" to the specialist or the general practitioner whose patients require special treatment in this field.

No Otolaryngologist should be without a useful reserve of technique and practical experience from research and clinical practice in hospitals and medical centers throughout the country.

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Start my subscription to A.M.A. archives of OTOLARYNGOLOGY with the next issue. Per year, $12.00. (Canadian, $12.40; Foreign, $13.00.)
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AIH

Afric in ..urs

V 15
1954

basic | *chemically* *clinically*

racyn

hydrochloride

brand of **tetracycline** hydrochloride

154
54

- a nucleus of modern broad-spectrum antibiotic activity
- unexcelled tolerance
- outstanding stability
- high concentrations in body fluids
- may often be effective where resistance or sensitivity precludes other forms of antibiotic therapy

Tetracyn Tablets (*sugar coated*) 250 mg., 100 mg., 50 mg.

536 Lake Shore Drive, Chicago 11, Illinois

For Comfort . . . Neatness . . For Support . . . Compression

The Dependable Original E-L-A-S-T-I-C Adhesive Bandage

ELASTOPLAST

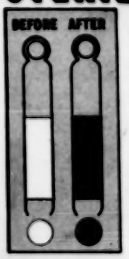
Molds and holds to any contour . . . Allows joint motion . . . Provides firm support and controllable compression . . . Does not slip. Assures the neatest, most comfortable dressing in private and hospital practice. Available at your dealer in widths of 1, 2, 2½, 3, 4, 5 and 6 inches, 3 yards long (slack).

* Elastoplast® is also available in convenient unit dressings and compresses. Write for literature.

DUKE LABORATORIES, INC.

when white turns to BLACK you can use the pack

STERILOMETER



Change from white to black indicates sterilization

SHOWS STERILIZATION

A Sterilometer, inserted in each surgical pack helps you determine whether sterilization has been accomplished. When a pack comes from your autoclave, the Sterilometer will be black or white. If not completely black—the pack is not sterile. Sterilometer is safe, sure, simple to use.

SEND FOR FREE SAMPLES

The Hospital Supply Co., Inc.
432 Fourth Ave.
New York City 16, N. Y.
Please send free samples of Sterilometer to test in our autoclaves.
Name ..... Title .....
Hospital Name .....
Street .....
City ..... Zone ... State .....

VAN CAMP SEA FOOD CO., INC.
Terminal Island, California

TONICS AND SEDATIVES *(Continued)*

nurses. Here are some gems that were selected at random from test papers.

On the use of morphine: "Never use in pregnant women because it gets to flatus and harms it." "Morphine causes pinpoint eyeballs."

On toxicity of morphine: "Pt becomes cyanotic, flushed, pupils constrict and Chyne strokes."

On the use of bromides: "To decrease sexual motivation." "For high strung nervous person with muscle twitching."

Grand mal: "Very dramatic type of convulsion."

On stimulants: "Have uplifting effect on body organs."

On hormone of ovary: "Gluteus luteum."

Miscellaneous: "Fertilization takes place in the Eustachian tube." "Stimulating the vaginal nerve slows the heart." "HI = Idiotic acid."

First prize: "A theory is the lowest form of reasoning."

—Joseph G. Graca

♠

did you know that . . . ?

Avensoar, the famous sage of Arabian medicine in the Middle Ages, was responsible for a superstition which prevailed for centuries. Not satisfied with claiming that he cured his dysentery by wearing an emerald upon his belly, he was also the man who began the wearing of Bezoar Stones.

These stones, which were supposed to have been produced by stags, gained a reputation for curing in time, and physicians prescribed them for all fevers, and for skin diseases including leprosy. Men carried them in gold and silver cases as amulets. During plagues, those who could not afford to buy rented one by the day.

False bezoars were burnt by the authorities, but if declared genuine they were sold at great price and treasured as heirlooms. It is even reported that a castle was given in exchange for one of these stones. Most remarkable of all, the Bezoar Stone was admitted into the London Pharmacopeias as an official remedy until the mid-eighteenth century.

♠

Late one day, on his way home from work, a prosperous middle-aged man was halted by a staggering man who reeked of cheap bourbon. "Hey, where's Alcoholics Anonymous?" he demanded.

"You want to join?" asked the prosperous gentleman, unbelievingly.

"Heck no," said the other. "I want to resign."

♠

The silver-haired elderly woman watched with compassion the young couple locked in a passionate embrace at the railroad station. The girl was still sniffling as she climbed aboard the train after the old lady. The boy stood forlorn and downcast on the platform below.

(Continued on page 56)

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BIFACTON

Vitamin B with Intrinsic Factor Concentrate

Organon

when pregnancy is contraindicated

Lorophyn

- rapidly spermicidal
- simple technic
- greater patient acceptance

Lorophyn

Lorophyn Suppositories N.N.R. contain phenylmercuric acetate 0.02%, methylbenzethonium chloride 0.2%, and methylparaben 0.1% in a water-dispersible base.

Also available Lorophyn Jelly N.N.R.

(1) Eastman, N. J., and Seibels, R. E.: J.A.M.A. 139: 16, 1949. (2) Eastman, N. J.: South. M. J. 42: 346, 1949.

TONICS AND SEDATIVES *(Continued)*

When the train started, the old lady came over and sat down next to the girl. She said, patting the girl on the shoulder sympathetically, "I can understand your crying when you have to leave your husband."

"That's not it," sobbed the girl. "I'm crying because I have to go back to him."

♦

Schiller, in his biography of Frederick the Great, tells of the time when the king visited a prison in one of his large cities. Every prisoner assured the monarch that he was innocent and the victim of a frame-up.

Finally one man said, "Your Majesty, I am guilty and richly deserve punishment."

Frederick the Great shouted for the warden. "Free this rascal and get him out of our prison at once before he corrupts all the noble, innocent people in here."

♦

A woman who was very fond of her rather disagreeable dog named Sunshine took him everywhere with her. One day when she was entering a cab with him, the cabdriver objected to transporting the dog.

The woman insisted and soon they were on their way. Unfortunately, Sunshine had an accident en route. The driver turned around and gave the woman a furious glare. "Don't blame Sunshine," she said. "I did it."

♦

A gem of unintentional humor was supplied over a national network by the gentleman who had just been chosen "Father of the Year." His qualifications for the title included his 27 children. When asked by the announcer how he was feeling, he announced coast to coast, "I'm pretty tired. I'm usually in bed by this time of night."

—D. D.

(Continued from page 48)

SHAY MEDICAL AGENCY
55 E. Washington Street
Chicago 2, Illinois
Service of Distinction since 1914

ANESTHESIOLOGIST: assoc. w/member of Am. Bd. of Anes.; city of 15,000 in Maryland; priv. pract.; finan. arrangements will begin at ½ of total income increasing to 50%, w/min. of $10,000 to start; full privileges in 3 yrs.

ASST. DIR. of CLIN. INVEST: MD, degree also req. plus PH.D. preferred; must have pleasant personality w/ability to speak & write clearly on med. subjects; good judgment on med. values & an interest in med. reports; pharmaceutical exper. helpful; free to travel ½ of time; $12,000+. East.

DIPLOMATE PATHOLOGIST: min. guar. $12,000; 50 bed hosp. w/staff of 20 men; Calif.

ENT: (a) Texas clin. of 22 active men, practically all Bd'd cert.; $15,000 for Bd'd man w/same exp.; pri. practice after 2 yrs. (b) priv. grp. of 20 in midst of bldg. program; $. Dol.; at least $15,000 for right man. (c) w/Albany; 14 rm. air-conditioned office bldg. & pract. for sale; 7 hr. man having A-1 bldg. reputa.; grossed over $40,000 last yr. & he's only been there 5 yrs.

GENERAL: (a) assn. surg. & OB; recently sent here in Iowa; 32 bed hosp. in Iowa; $10,000 1st yr. w/priorities, when gradually satisfactory. (b) assoc.; sal. for 6-12 months, then partnership; air conditioned well-equipped offices & expenses furnished; oil field center of Okla. (c) w/Dr. & surg. clinic-hosp.; furnished ranching, oil center of Texas; $10,000+.

HOUSE PHYSICIAN: can be filled by grad. of foreign med. schl.; Illinois; hosp. $6-7500; if licensed in Illinois may go to $10,000.

INDUSTRIAL: Indiana; $8000 start; 6 hrs. 5 days, assoc. for yng. man interested in indus. med. to career.

INTERNIST: 5 man grp.; Illinois; $8000 start w/future priorities; pleasant working conditions.

NEUROSURGEON: assoc. w/Bd'd man doing priv. pract. in south Calif.; sal. open.

OBSTETRICS-GYNECOLOGY: full time prof. & chairman of combined dept. to unit. of med. in southern univ.; must be well-trained academically, primarily man.

OPHTHALMOLOGY: clinic; Ill.; $15,000 w/no other income.

PEDIATRICIAN: clinic/hosp; to $15,000 1st yr. w/equity for equal ½ at end of 1 yr.; South; no ped. in grp.

PHYSICIAN: to develop an employee hlth. service for widely networked company in New England employing between 2500-3000 people; to $11,000.

PSYCHIATRY: (a) asst. med. dir.; 2500 bed hosp; NW; to $11,000 plus res. invited, affiliates. (b) Director outpatient clinic; $10-$12,000; voluntary teach. hosp. providing indiv. & grp. psychotherapy; East.

RADIOLOGIST: (a) assoc. w/Fellow ACR, also certified; import. indus. city in East; $13,000 start w/scheduled added increments. (b) do you want to be the only rad. in grp. of 13, about their own clinic-hosp.? we have a fine opening here in the NW paying top salary —$12-$15,000. more if experienced.

STUDENT HEALTH: Director w/rank of full professor; $9-$10,000 w/vacation periods; co-ed student body of 10,000, 75 bed infirmary; staff of 5 physicians; SE in med. climate.

SUMMER CAMP OPENINGS: many fine opportunities open now for phys. who want to spend the season in enjoyable and comfortable surroundings w/light duties; mtn. furnished, together w/good salary.

SURGEON: prof. surgeon w/hosp. in their surg. as well as gen. surg. for ltp. org. in Pac. NW serving 50,000.

TUBERCULOSIS: asst. w/exp. to intelligently give collapse therapy & w/some exp. in int. med.; 142 bed san.; South; $6000 plus furnished 2 bedrm. apt.

UROLOGIST: for clinic org. in 1939 w/yng. staff of 16 phys; priorities in 2 yrs; profes. work is well departmentalized; typ. NW town of 50,000 serving metrop. pop. of 250,000.

(Continued on page 60)

"Reminds Me of a Cardiogram I Read Today!"

why should a child's shoe be shaped differently than a child's foot?

frankly we don't know... So we've shaped *Jumping-Jacks* just *like* a child's foot . . . with a *rounded* heel that's one piece with the sole, to help little feet *roll* forward, easily and steadily, without rocking or wobbling. And we've crafted our fine shoes from the softest, most flexible leathers, to give youngsters all the freedom of going barefoot, and yet protect them without restraint.

VAISEY-BRISTOL SHOE COMPANY INC.
MONETT, MISSOURI
MADE IN CANADA BY SAVAGE SHOES, LIMITED

Upjohn

less-antigenic penicillin:

Cer-O-Cillin

POTASSIUM

Trademark Reg. U.S. Pat. Off.

Available as:

Sterile vials containing 200,000 units Crystalline Penicillin O Potassium.

Bottles of 12 buffered tablets, each containing 100,000 units Crystalline Penicillin O Potassium.

THE UPJOHN COMPANY, KALAMAZOO, MICHIGAN

V 154
1954

The Bright Side

by E. K. H.

One of last season's most amusing books was "The Last Resorts" by Cleveland Amory. Written in a hotel bedroom after many years of research at America's plushiest spas, it revealed that the multi-millionaires of Newport and Palm Beach were human beings too.

One story was told of a fancy dress ball given by Mrs. Vanderbilt at her estate in Newport. It was an imposing affair and most of the guests had already assembled. A bit tardy, but dressed to the teeth, were a Philadelphia banker and his very stout wife.

The announcing footman at the head of the great stairway asked them to describe the characters they were representing. "I am Henry the Fourth," said the banker, "and my wife is a Norman peasant."

The footman turned toward the assemblage. "Henry the Fourth," he announced, "and an enormous pheasant."

❖

Three Little Pigs lined up at the bar of a roadside tavern. "Make mine an old-fashion," grunted Piggie No. One. "And make mine a Tom Collins," squealed No. Two.

"Gimme five quarts of beer," demanded No. Three.

"You don't want five quarts," protested the bartender as he gazed at the Piggie. "Why you couldn't possibly hold five quarts of beer."

"Ha," indignantly retorted No. Three. "It's plain you don't know who I am! I'm the little pig who went wee, wee, wee, wee, all the way home!"

❖

At a cocktail party, a young man sat down next to a young lady and offered her a cigarette.

"No, thank you," she said. "I don't smoke."

"Can I get you something to drink?"

"No, thanks. I don't drink. You see, I'm a Sunday School teacher."

The young man excused himself and drifted away. When the party broke up, he found that all the girls had escorts except the one he'd talked to. So, somewhat reluctantly, he asked if he could take her home.

She agreed, and they got a taxi. He offered to drop her at her door, but to his surprise she said, "Won't you come in?"

Once inside, to his further surprise, she flung her arms around him and kissed him soundly. When he managed to disentangle himself, he told her: "I certainly had *you* sized up wrong, baby."

"I don't see why," she answered. "After all, it's just what I tell the kids in my Sunday School class—a girl doesn't have to smoke and drink to have a good time."

❖

A doctor one night had just laid his weary head on the pillow when the phone rang. Suppressing a groan, he picked up the receiver and mumbled, "What do you want?"

"Hurry right over, Doctor," an excited man's voice exclaimed. "My wife's got one of those books on what to do until the doctor arrives, and I'm scared she's going to do it!"

—"Quote"

❖

One sweet young thing arrived at her first ball game during the fifth inning. "It looks like the score is nothing to nothing," her escort glanced at the scoreboard.

"Oh, good," she cooed. "Then we haven't missed a thing."

—Walter Winchell in Reader's Digest

"Chester Was So Positive I Was Going to Have ONE BIG STRONG BOY!"

O.K. just ONE shot

(today)

D IPHTHERIA and

T ETANUS TOXOIDS ALUM-PRECIPITATED and

P ERTUSSIS VACCINE combined

NATIONAL

Naturally, the full course is three 0.5-cc. injections at intervals of 4 to 6 weeks, but from the child's point of view it means "just one shot" today—rather than three.

This widely used National preparation provides simultaneous protection against 3 of the most serious childhood diseases: diphtheria, tetanus, and pertussis.

Supplied: Diphtheria & Tetanus Toxoids (Alum-Precipitated) & Pertussis Vaccine Combined, U.S.P.: One-immunization package containing three 0.5-cc. (single dose) vials. Five-immunization packages: three 2.5-cc. vials, or one 7.5-cc. vial.

THE NATIONAL DRUG COMPANY
Philadelphia 44, Pa.

Pharmaceutical and biological preparations for the physician.

(Continued from page 56)

WANTED — A PHYSICIAN TO PRACTICE IN A small county-seat town in western Kentucky; good schools, churches, and roads; near excellent fishing waters, atomic energy plant and close to medical center with 3 good hospitals; splendid opportunity. Write: Mr. W. W. Morris, President, Commercial Club, Wickliffe, Kentucky. C

WANTED—PHYSICIAN TO TAKE OVER GENERAL practice and buy equipment in southern Idaho town of 2500 population; prosperous irrigated farming community; leaving June 15th to take up a specialty. M. A. Drake, MD, Buhl, Idaho. C

Patricia Edgerly

has been successfully placing physicians and medical personnel in happy situations since 1926.

THE NEW YORK MEDICAL EXCHANGE
489 Fifth Avenue (Opposite Public Library)
Specialists in Selection

WANTED—GENERAL PRACTITIONER; FOR FAST growing suburb of Chicago; now town of 1000 families; with only 1 MD, who will cooperate; have suite of 2 offices available; moderate rent; share reception room in new medical building ready for occupancy; wonderful opportunity; near hospital; apartment available. Box 6000 C, % AMA.

WANTED — EENT ASSOCIATE: CAPABLE ALL necessary surgery, city 32,000; income practically unlimited; well-equipped 7 room office in (1 story bank building; best location in city; retiring soon. Box 6006 C, % AMA.

3000 PEOPLE WITHOUT A DOCTOR WOULD WELcome a general practitioner; fine opportunity; immediate practice; community cooperation; location in central California on Yosemite Hi-way. For information write: Bert Innes, Planada, California. C

PEDIATRICIANS — TWO; SOME TRAINING PREferred, but not necessary; active practice; well-equipped clinic in Mississippi Gulf Coast town; alternate evening and week-end calls; about $12,000 yearly to start. Box 6297 C, % AMA.

WANTED—RESIDENT PHYSICIAN; SALARY $5700-$6900; for psychiatric institute with active research, training and treatment program. Write: Superintendent, New Jersey Neuro-Psychiatric Institute, Box 1000, Princeton, New Jersey. C

WANTED — WOMAN PHYSICIAN FOR SCHOOL health service; 10 months per year; salary approximately $5000. Address inquiries to: Thomas W. Mulrooney, Director, 511 W. 8th St., Wilmington, Delaware. C

IF YOU ARE BOARD CERTIFIED OR ELIGIBLE internist, desiring association with a 10 man mid-western group providing opportunity for clinical research and teaching, contact: Box 6594 C, % AMA.

PATHOLOGIST—MUST BE CERTIFIED; APPOINTment for the duration of staff pathologist's active duty. Apply: J. W. Cavers, Administrator, Wesson Memorial Hospital,* Springfield, Massachusetts. C

PHYSICIANS—TWO; LICENSED; FOR TOP NOTCH brother-sister camp, located in Wayne County, Pennsylvania; salary, $600 for camp season, July 2nd to August 27th. Box 6599 C, % AMA.

EENT—EXCELLENT OPPORTUNITY FOR ASSOCIate in a new group as partner in a rapidly expanding community. Write: San Juan Clinic, Farmington, New Mexico. C

WANTED—ORTHOPEDIC SURGEON; AS FULL ASsociate partner by Board certified orthopedist; mid-western city, Great Lakes area. Box 6570 C, % AMA.

"Founders of the counseling service to the medical profession serving medicine with distinction over half a century.

ACADEMIC: (f) Prof & Chairman, dept OB-GYN; univ med sch; academically oriented man required. **ADMINISTRATION:** (m) Med dir & dir of intern & residency program; fully approved, vol gen'l hosp 250 beds; univ town 125,000; warm climate. **ANESTHESIOLOGY:** (o) Dir dept; vol gen'l hosp, 400 beds; 15,000 surgical procedures; modern recovery room; fee-for-service; univ city 150,000. **ASSISTANTS:** (q) GP qual assist at surg; by GP with lge amt OB-GYN; grosses $65,000; sal or %; early ass'n. (q) (r) GP; assist 2 surgeons, both certified; university city; E. **DERMATOLOGY:** (o) Asso; grp 9 specialists, Dipls; expand'g program, lge city; univ med center. **EENT:** (c) Obs; asso w/ob & opb both Dipls, FACS est 1938; very busy pract; exc hosp connections; city 2 million; univ med center. (d) Opb; Head dept; grp long-estab'd; 14 Dipls; Calif. **GENERAL PRACTICE:** (c) Asso w/FACS, internist, & OB-GYN; duties, G P & surg; ½ to 2 med schls; WW. (d) Asso w/GP; lge gen pract, emphasis on surg; exc clinic & hosp facil; sal increase to 2 years thus prinship selling about $25,000; Okla. (e) GP w/surg exp & trng in fields of surg or OB; ass'n w/elderly surg in gradual retirement; $10,000 no 1st 3 mo then ⅓; Calif. (f) GP; ass'n w/internist, Dipl, FACP; pract generally int med; resort town 25,000 or NYC. (g) GP; ass'n; grp being founded by men long-estab'd; new clinic bldg; will serve impor area; Fla. **INTERNAL MEDICINE:** (c) Hd dept; grp 6 specialists recently founded; new bldg, complete facil; ½ sal to set $18,000 shortly; or sal basis; Calif. (i) Asso; 10 man grp, cert or elig; own mod aircond clinic; apply set $20,000 2-3 yrs; W. (o) One inter'd chest diseases & possible tuberculosis; endoscopy; asso; grp specialists set 7 years; university city; Pac NW. **NEUROSURGEON:** (i) Asso w/Bd neurosurg cert in NP; busy priv pract; univ city 245,000; WW. **OBSTETRICS-GYNECOLOGY:** (j) Hd dept; sal distinguished grp specialists; top 30,000 to lge draw'g area; Pac NW. (k) Asso; grp 6 grp specialists; expand'g; ocean resort; Calif. (l) Hd dept; sal grp est 5 yrs new expand'g; new clinic; serves important area; Florida. **ORTHOPEDICS:** (j) Hd dept; 12 specialists; new clinic facil; Bay area; Calif. (k) One qual help orgn'zation; early genl surg; asso; 8 yng men, 4 FACS, 3 Dipls; own 70-bed el-hosp; refill two yr university medical center; SW. **PATHOLOGY:** (q) Asst to sustand'g path, Dipl, heading soc labs, affil univ med schl; E. (r) Dir dept; 200 bed vol genl hosp; refill two 15,000. **PEDIATRICS:** (k) Hd dept new grp being founded by Bd surg on faculty univ med schl; lge city; Pac NW. (y) Asso; dept ped; distinguished hosp grp; complete, brand-new fac; univ med cen; Calif. (z) Asso w/Bd ped hd dept 125 bed hosp & on staff 2 hosps, 350 beds; apply teach; early partner; or univ medical center; SW.

PSYCHIATRY & NEUROLOGY: (f) Psy; sal stab univ in two 10,000 or more cultural center; WW. (g) Neur; asso; neurosurg, Dipl & faculty member impor univ med schl; $600-$1000 mo plus ⅓ of own priv pract; large city; E. **RADIOLOGY:** (o) One qual hd dept; 16 man grp mostly cert; own 150 bed el-hosp; 10,000 patients yr; take grp to 15,000 plus yr; Mid. (v) Asso; 5 Bd rad's; serv'g 5 hosps, sev clinics; own well-equipped clinic; $15,000 to ½; Calif. (x) Dir dept; 350 bed hosp; one qual teach, inter'd research; sal plus consult fees.

SURGERY: (h) Chief; 150 bed hosp; Amer ex, foreign operations; prof can also speak Spanish. (i) One finish'g trn'g asso; 20 man grp; $10,000; two 350,000; WW. **TUBERCULOSIS:** (l) Dir impor tub'g TBs unit, 350 beds; mod schl affil; large city; E. **UROLOGY:** (u) Asso; well-est 14 yrs grp; own clinic w.exc hosp facil; partner 2 yrs; WW.

PLEASE SEND FOR AN ANALYSIS FORM SO WE MAY PREPARE AN INDIVIDUAL SURVEY FOR YOU
We offer you our best endeavors—our integrity—our 50 year record of effective placement achievement
STRICTLY CONFIDENTIAL

(Continued on page 62)

V 154
1954

YOU AND YOUR PATIENTS WILL APPRECIATE COOL COMFORT... buy CHRYSLER AIRTEMP AIR CONDITIONING!

"Packaged" Air Conditioners in nine models, 2 to 15 H.P., meet most cooling needs. Other Chrysler Airtemp products for all systems of air conditioning—a complete line to suit every requirement.

You will be able to work longer without fatigue . . . with discomfort eliminated and strain and tension eased in the cool, relaxing atmosphere of an air conditioned office. Patients young and old will appreciate the comfort which only air conditioning can provide. And with windows closed against dust and dirt—thanks to air conditioning, your office can be kept more aseptic and sparkling bright with less cleaning and redecorating.

But when you choose your air conditioning, *insist on Chrysler Airtemp!* "Packaged" air conditioning was pioneered by Chrysler Airtemp in 1937. More Chrysler Airtemp "Packaged" Air Conditioners have been sold than any other make. And only Chrysler Airtemp engineering gives you such important features as the super-efficient, super-quiet Sealed Radial Compressor . . . "Maxi-Fin" Coil for more effective cooling . . . "Airfoil" Grille to direct the air exactly where you want it by means of adjustable vanes . . . greater cooling capacity . . . more compact, space-saving design. Send coupon now for complete details!

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HEATING • AIR CONDITIONING
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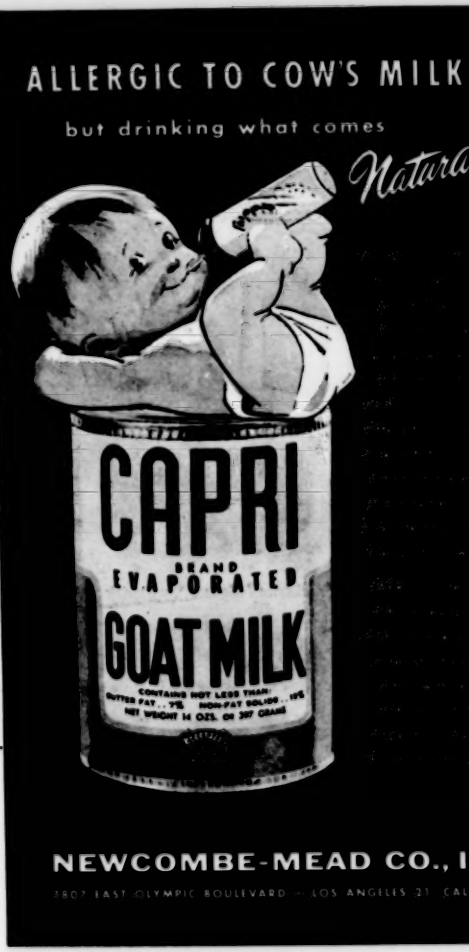
Airtemp Division, Chrysler Corporation, Dayton 1, Ohio

Airtemp Division, Chrysler Corporation JAMA-4-54
P.O. Box 1037, Dayton 1, Ohio
I'd like to know more about Chrysler Airtemp Air Conditioning.

Name _____
Address _____ Phone _____
City _____ Zone _____ State _____



(Continued from page 60)

WANTED—PUBLIC HEALTH PHYSICIAN; TO DIrect full time city-county health unit. Write: W. Coutant, MD, 123 South 5th St., Manhattan, Kansas. C

WANTED — GENERAL PRACTITIONERS; TO JOIN established Ohio group of young specialists and general practitioners; democratic, enthusiastic, academic atmosphere; paid annual vacation and study period; excellent salary. Box 6456 C, % AMA.

ANESTHESIOLOGIST — TO JOIN GROUP ON FEE for service basis; good working conditions and vacation privileges; must have completed anesthesiology residence and be eligible for Boards. Box 6484 C, % AMA.

CALIFORNIA
OPPORTUNITIES FOR PHYSICIANS
MANY ATTRACTIVE OPENINGS
General and Specialties
THE MEDICAL CENTER AGENCY
26 O'Farrell Street — San Francisco 8
(Norma S. Rohl, Director)

RADIOLOGIST—BOARD CERTIFIED OR ELIGIBLE; for association in private office and hospital in greater Boston area; state details relative to training, experience, availability, etc. Box 6486 C, % AMA.

WANTED—GENERAL PRACTITIONER WITH ANESthesia; about 30% of each; clinic and hospital. Box 6208 C, % AMA.

INTERNIST — UNDER 35; BOARD QUALIFIED; small group; established, in Ohio city, 50,000; to be partner after 1 year if mutually agreeable; must be willing to do some general practice; salary 1st year, $12,000. Box 6358 C, % AMA.

PHYSICIANS—WITH PUBLIC HEALTH TRAINING; and pediatricians; needed in maternal and child health program; at salaries from $7046 to $9180; 5 day week, pension, civil service appointment. Dr. E. R. Krumbiegel, Milwaukee Health Department, City Hall, Milwaukee 2, Wisconsin. C

WANTED — ASSISTANT IN GENERAL SURGERY; carries 1 year fellowship in surgery; salary $5000 year; 16 man clinic near Chicago, Illinois; 4 Board surgeons; person with Illinois license preferred. Box 6534 C, % AMA.

WANTED—WELL-TRAINED YOUNG RADIOLOGIST; as associate for busy practice in East; salary 1st year, eventual partnership. Box 6510 C, % AMA.

WANTED—RADIOLOGIST; CERTIFIED OR BOARD eligible; to associate with Board radiologists in 3 private offices, hospitals and clinics; mid-west city; give resume of training, and health status. Box 6539 C, % AMA.

WANTED—PHYSICIAN; TO TAKE OVER GROWING general practice in resort area of North Carolina; leaving in July for specialty training; minimal investment needed. Box 6547 C, % AMA.

OPHTHALMOLOGIST-OTOLARYNGOLOGIST—CERTIfied one, qualified other; practice same location over 25 years; modern, equipped office; type of practice lends itself easy to transfer to incoming man; will stay and introduce; best hospital accommodations; will have complete charge of practice; income from practice at this time sufficient for yourself and associate, or you can reduce present volume of practice; 1 of 8 report community income top bracket; population 75,000; ideal community, raise family; churches, schools, college, all denominations. Box 6490 C, % AMA.

WANTED—AT ONCE; ONE ASSOCIATE IN GENeral practice, 1 associate with surgical training; small private hospital; northcentral Iowa. Box 6554 C, % AMA.

NEEDED—PSYCHIATRIST; BOARD ELIGIBLE OR certified; good opportunity for ambitious young man; terms to be mutually arranged. W. A. Tice, MD, 416 Insurance Bldg., Waterloo, Iowa. C

The Medical Bureau
PALMOLIVE BUILDING — CHICAGO

ACADEMIC: (L1) Ass't prof. neurology; should be int. epidemic server, research; full time.
ANESTHESIOLOGY: (A44) Dipl. direct dept. vol. gen'l hosp. 350 beds; univ. town, 200,000. (A45) Assoc. int. research; important organ; E.
ASSISTANTS: (B50) By surg., FACS; duties: surg. assisting, gen'l pract.; attrac. res. town, So. Calif. (B55) By busy GP; suburb, Wash. D.C.; early partner; min. $10,000.
DERMATOLOGY: (C62) Head dept, 9 man group; coll. & resort town, $5,000. W
EENT: (D31) Oph. and otc., Diplo or elig; head depts. well-estab'd group; med. center; E. (D32) Oph; ass't with Board oph; partnership after 1st yr; Calif. (D33) Oto; ass't, 24 man group, long-estab'd; univ. city, med. center, MW; oppor. head dept after short tenure.
GENERAL PRACTICE: (E7) Two GP's, one qual. surg.; to take over county med. program for care of welfare clients; coll. town, 40,000; W. (E8) Group ass't; Fla. (E9) Ass't with GP, well-estab'd, Chicago suburb; busy pract; excel. hosp. teaching connections; early partner. (E10) Ass't, gen'l & surg. practice; Penn; $10,000; early partner. (E11) GP with 2-3 yrs' surg. training; ass't, 4 man group; community, 1500 people each phy.; So. Calif.
INDUSTRIAL MEDICINE: (F70) Med. dir; newly created post; plant now being served by part-time men; Mich. (F71) To take charge med. dept; plant having 700 employes; small hosp. planned; oppor. priv. pract; should ass't, min $12,000; So. Calif.
INTERNAL MEDICINE: (G36) Two internists, one qual. GI, other cardiology; group, 9 Board men; partnership; univ. city, SW. (G37) Gastroenterologist; (1) man group; univ. city; MW. (G38) Ass't with 2 Board internists; busy pract; resid. town; WV state. (G39) Ass't, surg; San Francisco area. (G40) Group ass't; Fla. (G41) Assoc., dept of med., ige teaching hosp; should be able assist, qual in participation in training young men. (G42) Assoc; dipl. FACP; busy pract; lge city med center; MW; $10,000 1st year, $25-35,000 after becoming established
OBSTETRICS-GYNECOLOGY: (H25) Professor and chairman of dept; academically oriented; full time. (H26) Ass't, prominent specialist; Chicago.
ORTHOPEDICS: (J33) Head dept, 12 man group; partnership; coll. town; E. (J34) Ass't, busy dept, long estab'd group; pref. one qual. to head dept; coll. town; SW.
PATHOLOGY: (K57) Head dept, 2 hosps, 300 beds; percentage; coll. town; Pa. (K58) Ass't, one of country's leading clinics, long-estab'd; pref. one int. clinical path., research; lge city, attrac. living; W. (K59) Full time research; important organ; E.
PEDIATRICS: (M18) Head dept, 5 man group; $1000 monthly, 1st 6 months, then full partnership; So. (M19) Ass't, 2 Board peds; coll. town, 100,000; SW. (M20) Ass't, small group; res. town, near med. center, N.Y.; sal., 2 yrs; full partner, 3d. (M21) Head, newly created dept, estab'd pract; coll. town, near lge city, univ. med. center, Pac. NW; partnership. (M22) Head dept, small group, Board men; Wis; partnership, 6-12 months.
PUBLIC HEALTH: (N82) Dir., state health dept; newly created post
PSYCHIATRY & NEUROLOGY: (P68) Neuropsy, Dipl. or elig; ass'n group specializing P&N; $12-$16,000 to start; partner oppor, univ. town, Carolinas; 2 med. schools; excel. future. (P69) MP exp, electroencephalography, shock therapy; Calif. group. (P70) Med. neurologist; ass't with neurologist and neurosurgeon; univ. city, MW
RADIOLOGY: (R53) Head dept, 15 man group, long-estab'd; lge city, Pac. NW. (R54) Ass't, rad. group; sal. plus %, providing substantial income; lge city, med. center, MW
SURGERY: (S77) Ass't, surg planning retire; head dept, small group; Rocky Mt. state. (S78) Group ass't; expansion early partner; E. (S79) Preceptee by Board surg; Indiana.
UROLOGY: (T52) Ass't, two Board urologists; busy pract; excel. teaching & hosp. connections; academic research interests desirable; lge city, med. center.

Please send for an Analysis Form.
We offer you our best efforts—our sincerity—our integrity.
Burneice Larson
DIRECTOR

(Continued on page 64)

V 154
1954

an effective antibiotic

Film Sealed

ERYTHROCIN Stearate

TRADE MARK

(ERYTHROMYCIN STEARATE, ABBOTT)

Faster Drug Absorption. New ERYTHROCIN Stearate offers excellent drug protection against gastric secretions. The new *Film Sealing** (marketed only by Abbott) disintegrates far faster than enteric coatings—permits almost immediate drug absorption.

Now . . . Earlier Blood Levels. Because of the swift absorption, high blood concentrations of ERYTHROCIN are reached *within 2 hours.* (Enteric-coated erythromycin affords little or no blood level at 2 hours.) Peak level is reached at 4 hours, with significant concentrations for 8 hours.

Low Toxicity. ERYTHROCIN is *less likely to alter normal intestinal flora than most other widely-used antibiotics.* Gastrointestinal disturbances are rare, with no serious side effects reported.

Effective Against Resistant Cocci. ERYTHROCIN Stearate is highly effective against coccal infections. Especially recommended when the infecting organism is staphylococcus—*because of the high incidence of staphylococcal resistance to penicillin and other antibiotics.* Advantageous, too, when patients are allergically sensitive to other antibiotics.

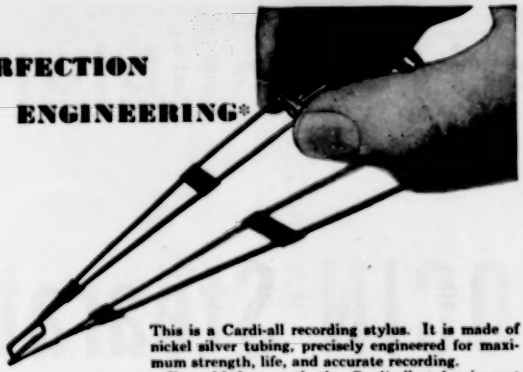
FOR CHILDREN:
PEDIATRIC
ERYTHROCIN Stearate
Oral Suspension

Tasty
Stable
Ready-Mixed

Dosage. Average adult dose, 200 mg. every four to six hours. ERYTHROCIN Stearate *Film Sealed* tablets, equivalent to Erythrocin base 100 mg. and 200 mg., come in bottles of 25 and 100.
Won't you prescribe *Film Sealed* ERYTHROCIN Stearate? Abbott

*patent applied for

PERFECTION ENGINEERING*



This is a Cardi-all recording stylus. It is made of nickel silver tubing, precisely engineered for maximum strength, life, and accurate recording.

For added strength the *Cardi-all* stylus is spot welded, thereby automatically eliminating constant care on the part of the operator to avoid overheating and burnouts.

The fact that the *Cardi-all* stylus is spot welded is less important than it is typical of Beck-Lee's "perfection" engineering—in this instance a durable stylus that will always produce sharp, well-defined, accurate records.

Complete with all accessories $545

THE PORTABLE BECK-LEE

Cardi-all

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630 WEST JACKSON BOULEVARD,
CHICAGO 6, ILLINOIS

* *This is one of a series of advertisements designed to focus attention on the many exclusive features of the Cardi-all which the world's largest exclusive manufacturer of electrocardiographs brings to electrocardiography.*

(Continued from page 62)

ASSISTANT MEDICAL DIRECTOR—CHEST DISEASE hospital, c. 250 beds; approved pulmonary diseases service with complete medical and surgical facilities; at least 1 year of specialized training in diseases of the chest, required; must have California license or able to obtain without delay; salary $6500 with complete maintenance, for physician or couple, or $7700 without maintenance. Address inquiries to: A. Goldman, MD, Chief of Professional Services, City of Hope Medical Center, Duarte, California. C

WANTED—ASSOCIATE GENERAL SURGEON; BOARD member; 200 bed hospital in West Virginia; annual salary $14,000. Box 6500 C, % AMA.

MEDICAL PLACEMENT
15 Peachtree Place, N. W.
Atlanta, Georgia
We serve the South.
Write us for information about openings.
(Mrs. Stewart R. Roberts, Director)

WANTED—AMERICAN TRAINED GENERAL PRACTITIONER under 46; to associate in large practice in college community of 6000 near large city; large surrounding population; good schools; new 50 bed hospital; group practice contemplated; starting salary $150 per week or percentage basis. Box 6498 C, % AMA.

WANTED—JULY, 1954; BOARD QUALIFIED OBSTETRICIAN to do obstetrics for Board certified obstetrician and gynecologist desiring to limit his work to gynecology; very attractive salary and excellent future; 350,000 population, Ohio. Box 6278 C, % AMA.

WANTED—FULL-TIME ASSISTANT RADIOLOGIST; 500 bed general hospital; 15,000 admissions annually; diagnosis, therapy, radium, radio-active isotopes; state training, experience, availability, and all information in 1st letter; financial arrangement salary 1st year; (state salary expected) eventual partnership. Box 6289 C, % AMA.

WANTED—ASSOCIATE; $7500-$10,000; EARLY PARTnership; Board eligible surgeon willing to do general practice also; full details in 1st letter; Massachusetts town. Box 6231 C, % AMA.

WANTED—PHYSICIAN; VERY LUCRATIVE OPPORtunity in western Massachusetts; new hospital; modern office space available in new professional suite with dentist and optometrist; central location. Reply: Mr. A. Arm, 706 Ocean Ave., West Haven, Connecticut. C

WANTED—JULY 1, 1954; RESIDENT PHYSICIAN; railroad hospital; Indiana, town of 15,000 population; good salary; applicants must qualify for Indiana State license. Box 6264 C, % AMA.

WANTED—TWO FEMALE HOSPITAL PHYSICIANS; July 1, 1954; 40 bed general hospital; 32 miles south Washington, D C; $350 monthly with maintenance. Send references. Superintendent, Physicians' Memorial Hospital, La Plata, Maryland. C

WANTED — OBSTETRICIAN-GYNECOLOGIST BY growing group in South Dakota; partnership opportunity; immediate opening. Box 6483 C, % AMA.

WANTED — PEDIATRICIAN; TEN MAN CLINIC; well-established; mid-west town of 100,000 wants young pediatrician to associate with senior pediatrician Board man, and 2 OB specialists; excellent hospital facilities with chance to build further volume practice; salary plus percentage 1st year with $12,000 minimum guarantee, with eventual partnership. Box 6450 C, % AMA.

WANTED—PHYSICIAN; GENERAL PRACTICE AND industrial; northwest Detroit; well-established group; to become associated with or on rental basis if willing to handle overflow. Box 6496 C, % AMA.

PHYSICIAN AND SURGEON—STAFF POSITION IN state mental hospital; 3000 patients including 500 tuberculars; quarters available at nominal cost; in foothills of Sierra Nevada mountains, 40 miles Northeast of Sacramento, California; United States citizenship and eligibility for California license required; may seek 1 year pending receipt of California license; monthly salary $644 to $1050, depending on experience and qualifications; positions immediately available; excellent clinical and working conditions. Contact: D. Tipton, MD, Superintendent, DeWitt State Hospital, P. O. Box 192, Auburn, California. C

WANTED — IMMEDIATELY; GENERAL PRACTItioner for mining community, Rocky Mountain Area; industrial organization pays salary plus housing and utilities; soon participating in private income group practice; healthful climate; write for details. Box 6429 C, % AMA.

PSYCHIATRIC CLINICAL DIRECTOR — MUST BE Board certified, under 50 years of age with dynamic orientation; U.S. citizen; salary $12,000 plus 2 bedroom house; 1200 bed psychiatric hospital + ; excellent facilities; 2 year residency approval; active clinical and teaching program; beautiful location in Hawaii; position available July 1, 1954. Write: Robert A. Kinnaird, MD, Territorial Hospital, Kaneohe, Hawaii, T. H. C

WANTED—OPHTHALMOLOGIST; BOARD CERTIFIED or Board eligible; to be associated with 2 other ophthalmologists in a large mid-west group; the position is open now and is a salaried one with opportunity of buying an interest in the clinic after 2 years. Box 6172 C, % AMA.

WANTED—PATHOLOGIST; TO JOIN GROUP; $15,000 with extras; ideal schedule and working conditions. Box 6487 C, % AMA.

HOUSE PHYSICIAN—100 BED GENERAL HOSPITAL; $250 per month plus maintenance; must be graduate AMA approved school; opening immediately. Apply: Administrator, The Valley Hospital, Ridgewood, New Jersey. C

PROFESSOR AND CHAIRMAN OF THE DEPARTment of obstetrics-gynecology; full time, southern medical school; salary open. New York Medical Exchange, 488 Fifth Ave., New York City. Patricia Edgerly, Director. C

CLINICAL DIRECTOR — IN LARGE PRIVATE MENtal hospital + admitting 450 patients; approved by ACS and by AMA for 1 year psychiatric residency; must be diplomate; send full information with 1st letter. Box 6057 C, % AMA.

OBSTETRICIAN-GYNECOLOGIST — IDAHO; JOIN 4 man group, well-established in community of 20,000; financial arrangements open; offers excellent future. Pacific Coast Medical Bureau, Agency, 703 Market, San Francisco. C

WANTED — PHYSICIAN TO JOIN LONG-ESTABlished group central California; April; must have good training; required to do industrial surgery, general practice; registered California or National Board; good salary; soon participating in net income; give all information 1st letter when available. Box 6459 C, % AMA.

CLINICAL PHYSIOLOGIST—TO BE DIRECTOR OF research project; particularly cardiovascular; eastern medical center; $10,000-$15,000. New York Medical Exchange, 488 Fifth Ave., New York City, Patricia Edgerly, Director. C

MEDICAL OFFICERS—FOR GLENN DALE HOSPItal, + the tuberculosis hospital for the District of Columbia; salary range from $7040 to $8040 per annum; sick leave, annual leave, and retirement benefits; 1 year's experience in pulmonary diseases and eligibility to secure District of Columbia license required. Address inquiries to: Superintendent, Glenn Dale Hospital, Glenn Dale, Maryland. C

UROLOGIST—SAN FRANCISCO BAY AREA; JOIN 19 man group in attractive community serving population of 45,000; beautiful new hospital; salary around $12,000 start. Pacific Coast Medical Bureau, Agency, 703 Market, San Francisco. C

CALIFORNIA
ROCKY MOUNTAIN STATES
PACIFIC COAST
Many openings, general, Industrial and Specialties.
CONTINENTAL MEDICAL BUREAU, Agency
510 West 6th Street, Los Angeles 14
(Helen Buchan, Director)

V 154
1954

WANTED—NEUROLOGIST; TO HEAD NEUROLOGICAL section, in association with neurosurgeons; must be familiar with electromyography and electroencephalography; salary open and liberal. Box 6300 C, % AMA.

OPHTHALMOLOGIST — CHIEF OF DEPARTMENT, hospital and clinic; Pennsylvania; salary open. New York Medical Exchange, 400 Fifth Ave., New York City. Patricia Edgerly, Director. C

PEDIATRICIAN—PERMANENT APPOINTMENT REplacing man called into service; group in city near Los Angeles attractive to young people; salary then partnership. Business and Medical Registry, 410 South Broadway, Los Angeles, California. C

ASSOCIATE IN ORTHOPEDIC DEPARTMENT — well-trained, Board qualified; traumatic background; Pennsylvania; salary open. New York Medical Exchange, 400 Fifth Ave., New York City. Patricia Edgerly, Director. C

WANTED—INTERNIST SPECIALIZING IN CARDIology and interested in clinical investigation; Board member; preference southern California group; $10,000 per annum. Box 6400 C, % AMA. C

GENERAL PRACTITIONER — PRIVATE HOSPITAL and diagnostic clinic; Pennsylvania; $7500-$10,000 to start. New York Medical Exchange, 400 Fifth Ave., New York City. Patricia Edgerly, Director. C

INTERNS AND RESIDENTS WANTED

*The * signifies a hospital approved for internships and the + approved for residencies in specialties by the Council on Medical Education and Hospitals of the A. M. A. Consult Council's approved list for types of internships and residencies approved.*

APPROVED ROTATING INTERNSHIP — MARICOPA County General Hospital, Phoenix, Arizona; $150 a month; bachelor quarters, board and laundry provided; positions available immediately; 350 bed acute general hospital +; well-departmentalized, with mainly Board men on the staff; well-organized teaching program with abundant outpatient clinic material; an excellent opportunity for interns to receive a maximum of practical supervised experience. Address reply in care of: Medical Director, Maricopa County General Hospital, 3435 West Apache, Phoenix, Arizona. D

APPROVED RESIDENCY IN UROLOGY—AVAILABLE July 1, 1954; senior residency paying $350 per month; well-equipped 320 bed county hospital *+; with active staff participation; located in community of 115,000; U. S. citizenship required. Administrator, Kern General Hospital, Bakersfield, California. D

WANTED — RESIDENTS IN PSYCHIATRY; APproved residencies available; large eastern mental hospital +; excellent teaching program, including graduate university courses; training in modern therapeutic procedures; salary: $4400 per annum. Box 6360 D, % AMA.

PSYCHIATRY RESIDENTS—INDIANA UNIVERSITY; 3 year program; psychotherapy oriented; psychoanalytic psychiatry; individual supervision emphasized; 600 inpatient beds; outpatient clinics, child-guidance; psychosomatic, $4000; increase $500 annually. Details from: Dr. Philip Seitz, Indiana University Medical Center,*+ Indianapolis, Indiana. D

PEDIATRIC RESIDENCY — FULL APPROVAL; 50 beds on pediatric floor; 35 nursery bassinets; outpatient clinics, 7000 visits per year; special clinics for cardiology, tuberculosis, allergy; affiliated 2 medical schools. Write: Medical Director, St. Luke's Hospital, Chicago. D

ANESTHESIOLOGY—APPROVED TWO YEAR RESIdency available; complete teaching program, stipend; candidates must be eligible for license in Illinois. Apply to: K. T. Morch, M.D., Anesthesia, University of Chicago, 950 E. 59th St., Chicago 37, Illinois. D

ANESTHESIOLOGY RESIDENCY—APPROVED FOR 1 or 2 years; for graduates of approved medical schools who have completed 1 year of an approved internship; medical college affiliation. Apply to: J. Gerard Cuccaro, MD, Albany Hospital,*+ Albany 1, New York. D

WANTED—GENERAL PRACTICE RESIDENT; FOR AMA approved residency; 170 bed hospital *+; accessible to a university medical center; stipend $300 per month; Indiana license required. Write: Administrator, St. Francis Hospital, Beech Grove, Indiana. D

ROTATING INTERNSHIPS — AMA APPROVED; starting July 1, 1954; 235 beds; teaching program; ample clinical material; monthly stipend $150 plus full maintenance. Washington Sanitarium, D. C. Apply: Prince George's General Hospital, Cheverly, Maryland. D

OTOLARYNGOLOGY RESIDENCY—TEACHING HOSpital *+; 2 or 3 year appointment; service including bronchoesophagology, rhinoplasty and endocrine surgery. AMA residency approved. Long Island College Hospital, 340 Henry St., Brooklyn, New York. D

AVAILABLE JULY 1ST — AMA APPROVED OB-stetrics-gynecology residency; 225 bed hospital adjacent to 28 man medical group; salary $500 per month. Write: C. Warner Litten, Manager, Fargo Clinic, Box 1388, Fargo, North Dakota. D

GENERAL PRACTICE RESIDENCY—START JULY 1, 1954; $300 per month plus full maintenance; exchange visitors program approval, P-1531. Apply: John W. Kauffman, Administrator, Princeton Hospital, Princeton, New Jersey. D

OTTAWA CIVIC HOSPITAL, OTTAWA, ONTARIO— position vacant; senior intern in pediatrics and senior intern in obstetrics and gynecology; commencing July 1, 1954. Apply: Secretary, Intern Committee, Ottawa Civic Hospital. D

BOARD APPROVED—PSYCHIATRIC TRAINING UP to 3 years; 2 of 3 residencies open now; analyst supervision; 10 Diplomate staff; 60 private beds +; state license required; salary $4800-$6000; 1st training. Box 6348 D, % AMA.

ASSISTANT RESIDENCY IN INTERNAL MEDICINE— available July 1, 1954; 3 year Board approved program in Ohio hospital *+; beginning stipend $250 month plus maintenance. Box 6341 D, % AMA.

PATHOLOGY RESIDENCY — AVAILABLE JULY 1, 1954; 320 bed general hospital *+; 4 year approval in clinical pathology and pathological anatomy; affiliated with Jefferson Medical College; salary open, including full maintenance. Apply: Frank B. Lynch Jr., MD, Pathologist, Germantown Hospital, Philadelphia 44, Pennsylvania. D

PEDIATRIC RESIDENCIES AVAILABLE—DEPARTment of Pediatrics of well-known western medical school has 2 1st year residencies open; rotations in clinical laboratory, child psychiatry, private hospitals; service begins July 1st or January 1st. Box 6443 D, % AMA.

RESIDENCIES AVAILABLE—JULY 1, 1954, CHIEF and senior residencies in pediatrics, $425 and $250 per month; junior residency in pathology (approved) $325 per month; junior residency in obstetrics and gynecology $325 per month; general practice residencies $225 per month; United States citizenship required; 320 acute beds in well-equipped county hospital *+ with active staff participation; located in community of 115,000 population. Administrator, Kern General Hospital, Bakersfield, California. D

APPROVED OB-GYN RESIDENCY — AVAILABLE July 1, 1954; excellent training program; 1600 births and 700 gynecology operations annually; 1 or 2 years of previous training desired; $700 to $900 per month plus maintenance. St. Elizabeth Hospital,*+ Lafayette, Indiana. D

PSYCHIATRIC RESIDENCY—NEW YORK; PRIVATE hospital +; devoted to intensive analytically oriented psychotherapy; 2 years previous experience preferred; best training centers; excellent opportunity for training; much personal supervision by highly qualified staff; salary $4000 to $6500; immediate opening; also July 1, 1954. Write: Director, High Point Hospital, Port Chester, New York. D

APPROVED RESIDENCY IN INTERNAL MEDICINE— available to graduates of approved medical schools; July 1, 1954; 360 bed general hospital *+; intensive educational program includes ward service, unusual responsibility in management of private patients, laboratories including instruction in pathology, radiology and electrocardiography. Apply: Dr. LeRoy Block, Hackensack Hospital, Hackensack, New Jersey. D

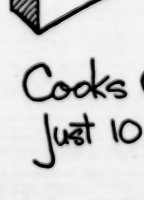
PEDIATRIC RESIDENCY—APPROVED; AVAILABLE July 1, 1954 in a 300 bed hospital *+; active pediatric service and outpatient department; special emphasis on heart disease and neuropsychiatric problems in children; salary $150 and up depending on amount of previous training. Apply: Director, Mount Zion Hospital, 1600 Divisadero St., San Francisco, California. D

RADIOLOGY RESIDENCY—FULLY APPROVED FOR 3 years training; teaching general hospital *+; 675 beds; outpatient visits; 63,000 yearly; stipend and full maintenance; organized teaching program in diagnostic and therapeutic radiology; Lucoge program; affiliated with New York University-Bellevue Medical Center; 2 full-time diplomates; openings July 1, 1954. Address: Director of Radiology, St. Vincent's Hospital, New York 11, New York. D

(Continued on next page)

From the desk of
R. A. SUTTER, M. D.

Very Good during Pregnancy and Lactation



INSTANT RALSTON
Extra-Nutritious! Whole Wheat with 5% Extra Wheat Germ

Cooks Quick...
Just 10 seconds

O.K. just ONE shot

(today)

D IPHTHERIA and

T ETANUS TOXOIDS ALUM-PRECIPITATED and

P ERTUSSIS VACCINE combined

NATIONAL

Naturally, the full course is three 0.5-cc. injections at intervals of 4 to 6 weeks, but from the child's point of view it means "just one shot" today—rather than three.

This widely used National preparation provides simultaneous protection against 3 of the most serious childhood diseases: diphtheria, tetanus, and pertussis.

Supplied: Diphtheria & Tetanus Toxoids (Alum-Precipitated) & Pertussis Vaccine Combined, U.S.P.: One-immunization package containing three 0.5-cc. (single dose) vials. Five-immunization packages: three 2.5-cc. vials, or one 7.5-cc. vial.

THE NATIONAL DRUG COMPANY
Philadelphia 44, Pa.

Pharmaceutical and biological preparations for the physician.

(Continued from preceding page)

MEDICAL FELLOWSHIP TO ENDOCRINOLOGY AND cancer; $3000; July 1st or August 1st; 1 year residency required; accredited by Board of Internal Medicine; some outpatient, general medicine. Research and Educational Hospitals and Presbyterian Hospital.*+ Chicago. Write: S. G. Taylor III, MD, University of Illinois Medical School, 1853 West Polk St., Chicago, Illinois. D

RADIOLOGY RESIDENCIES — IN NEWLY CONstructed university hospital*+; 600 beds; available July 1, 1954 and January 1, 1955; fully-approved 3 year training in all phases of diagnostic and therapeutic roentgenology, radium, and isotopes; entire department newly and completely equipped. Apply to: Director of Radiology, 3819 Maple, Dallas, Texas. D

RADIOLOGY RESIDENCY — THREE YEARS, COMmencing July 1, 1954 (or sooner); fully-approved; diagnosis, therapy, radium, radioactive isotopes; teaching hospital*+ affiliated with medical school; 2 full-time Board radiologists. Apply: J. H. Wentworth, MD, The Brooklyn Hospital, Brooklyn 1, New York. D

RESIDENCY IN INTERNAL MEDICINE — FULLY approved residency available July 1, 1954; 248 bed hospital*+; also approved for surgery, pathology, obstetrics-gynecology; stipend, $175 to $325 per month, with maintenance. Apply: Administrator, Mercy Hospital, San Diego, California. D

OTORHINOLARYNGOLOGY RESIDENCIES OPEN—AT new 1000 bed Ohio health center*+; large teaching clinics; complete training covering ENT and radical surgery with basic instruction; references, E. W. Harris, MD, Department of Otolaryngology, Room 838, University Hospital, Columbus, Ohio. D

APPROVED GENERAL SURGERY AND GENERAL practice residencies; available July 1, 1954; excellent training program; 1 or 2 years of previous training desired. $200 to $300 per month plus maintenance. St. Elizabeth Hospital.*+ Lafayette, Indiana. D

RESIDENT DOCTOR—APPOINTMENT JULY 1ST FOR 6 months; approved, general voluntary Westchester, New York Hospital*; substantial remuneration; prerequisites approved medical school and internship. Box 6544 D, % AMA.

VACANCY—JULY; 1ST YEAR RESIDENCY OBSTETrics and gynecology due death of appointee; AMA and Specialty Board approved 3 year program; general 600 bed hospital*+; 3400 annual OB-GYN patient admissions; Detroit. Box 6538 D, % AMA.

ANESTHESIOLOGY—APPROVED TWO YEARS RESIdency with complete training program covering all phases; 530 bed hospital*+; 2 openings available July 1, 1954; stipend $180-$200 month. Apply: Max Frick, MD, Director of Anesthesiology, Lenox Hill Hospital, 111 East 76th St., New York 21, New York. D

RADIOLOGY—APPROVED RESIDENCY; TEACHING hospital*+; training in diagnosis, therapy and radioisotopes; physics courses. Apply: Director of Radiology, Memorial Unit, Grace-New Haven Community Hospital, New Haven, Connecticut. D

THREE YEAR APPROVED RESIDENCY IN OBSTETrics and gynecology; beginning July 1, 1954; 352 bed general hospital.*+ Apply: Superintendent, The Toledo Hospital, Toledo 6, Ohio. D

APPROVED ONE YEAR RESIDENCY IN UROLOGY— available at Fordham Hospital,*+ Bronx 58, New York; effective July 1, 1954; $1810 per annum with maintenance. Contact: Medical Superintendent, for information. D

WANTED — UROLOGICAL INTERN OR RESIDENT; hospital*+ in Southeast; salary $100-$175 plus full maintenance; service approved by AMA and Board of Urology; good resident training program; service available now or July 1st. Box 6535 D, % AMA.

RADIOLOGY—ASSISTANT RESIDENCY; APPOINTment available immediately in southeastern hospital*+; department; 316 beds; fully-approved for 3 year training in radiology. Box 6549 D, % AMA.

MEDICAL RESIDENCY—AVAILABLE IN UNIVERsity charity hospital.*+ beginning July 1, 1954; excellent clinical material; well-organized teaching program; adequate stipend. Box 6309 D, % AMA

PEDIATRIC RESIDENCIES—IN ACCREDITED HOSpital +; available immediately; full maintenance plus $150 monthly; also compensation for outside well baby clinics; 1 resident, after a short period, will be selected assistant superintendent; salary $5000 annually plus maintenance. Apply to: Superintendent, Charles V. Chapin Hospital, Providence, Rhode Island. D

INTERNSHIP AVAILABLE — BEGINNING JULY 1, 1954; at the Hillsborough County Home and Hospital, Tampa, Florida; 250 bed charity general hospital (non accredited), offering services in obstetrics, general surgery, orthopedics, internal medicine, and pediatrics; salary $250 a month plus maintenance. Box 6508 D, % AMA.

RESIDENCIES IN PSYCHIATRY — DUKE UNIVERsity*+; 3 year approved; nonprofit patient and research facilities; closely supervised dynamic psychotherapy and somatic therapy; adult and children's OPD; training in psychosomatic medicine and neurology; minimum starting salary $2000, plus room and board, uniforms and other financial aid. Write: Chairman, Department of Psychiatry, Duke University, Durham, North Carolina. D

THREE YEAR RESIDENCY IN OPHTHALMOLOGY— at the University Hospital,*+ College of Medicine, The Ohio State University; starting July 1, 1954; stipend starting at $150 a month; training in all phases of ophthalmology intended to qualify for the practice of ophthalmology and the Boards. Apply to: Dr. Torrence A. Makley, Department of Ophthalmology, Ohio State University Health Center, Columbus, Ohio. D

PATHOLOGY RESIDENCY — FOUR YEARS APproval; available July 1st; 320 bed general hospital*+; research institute associated with hospital. Apply: Director of Laboratories, Toledo Hospital, Toledo 6, Ohio. D

WANTED — JULY 1ST; TWO JUNIOR ASSISTANT residents; for a fully accredited 4 year program in general surgery; rotation through surgical specialties; training in 2 associated hospitals; stipend 1st year $1800, 2nd year $2000, 3rd year $2200, 4th year $2400. Apply: J. M. Emmett, MD, Chesapeake and Ohio Hospital,*+ Clifton Forge, Virginia. D

WANTED—YOUNG OTOLARYNGOLOGIST; AS ASSOciate in the department of otolaryngology and bronchoesophagology of the Geisinger Memorial Hospital and Foss Clinic. Please write directly to: F. W. Davison, MD, Danville, Pennsylvania. D

POSITION AVAILABLE—APPROVED THREE YEAR resident in otolaryngology and bronchoesophagology at the Geisinger Memorial Hospital*+ and Foss Clinic. Please write directly to: F. W. Davison, MD, Danville, Pennsylvania. D

ANESTHESIOLOGY RESIDENCY — APPROVED TWO year residency, integrated with other teaching programs; starting immediately; maintenance and stipend. Apply to: Daniel C. Moore, MD, Director of Anesthesia, The Mason Clinic and Virginia Mason Hospital,*+ Seattle, Washington. D

MEDICINE — ASSISTANT RESIDENCY; AMA AND Board approved; available July 1st; very active municipal hospital*+; salary $1,500 per annum with full maintenance. Write: S. S. Dicio, M.D., Medical Superintendent, Cumberland Hospital, Brooklyn, New York. D

INTERNAL MEDICINE—TWO APPROVED FELLOWships available July 1, 1954; stipend $150. Alton Ochsner Medical Foundation,+ 3595 Prytania, New Orleans 15, Louisiana. D

RESIDENT IN PEDIATRIC PATHOLOGY—STARTING July 1, 1954; approved in clinical pathology and pathologic anatomy; teaching hospital.+ Apply to: Director of Laboratories, Children's Hospital, Washington 9, D. C. D

WANTED — RESIDENT SURGEON, $200; INTERN, $130; July 1, 1954; full maintenance; approved 3 years surgery; 1 year internship. Kanawha Valley Hospital,*+ Charleston 1, West Virginia. D

MISSOURI METHODIST HOSPITAL*+ — 300 BEDS; St. Joseph, Missouri; has available 2 internships, rotating; stipend $175 per month, full maintenance with 4 room furnished apartment; also approved residencies in surgery and general practice, stipend $325 per month, full maintenance with 4 room furnished apartment. Address: Administrator, Missouri Methodist Hospital, St. Joseph, Missouri. D

APPROVED RESIDENCIES AVAILABLE—AT GLENN Dale Hospital,+ the tuberculosis hospital of the District of Columbia; salary $3400 per annum; sick leave and annual leave benefits; 1 year's internship required. Address inquiries to: Superintendent, Glenn Dale Hospital, Glenn Dale, Maryland. D

V 15
1954

BRECK
WORK CREAM

ACCEPTED AMERICAN MEDICAL ASSOCIATION

Breck Work Cream helps prevent drying, cracking and chapping of the skin. Breck Work Cream is applied after exposure to degreasing materials and at the end of a day's work. It temporarily substitutes fatty materials for natural skin oils which have been removed by solvents and degreasing materials. Regular use of Breck Work Cream will keep the hands smooth, pliable and lubricated.

Industrial Preparations Booklet available on request.

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NEW ARM SLING

Takes weight off patient's neck. Distributes weight evenly to shoulders and back. This sling offers more comfortable, more secure support. Made of cool, washable canvas. Small, medium and large. Right or left.

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For the World's Most Complete Line of Fracture Equipment

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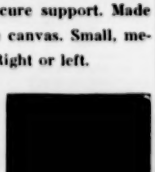

De Puy MANUFACTURING CO., INC

RESIDENCY IN SURGERY—AVAILABLE JULY 1954; planned program supervised by 2 Diplomates American Board of Surgery; full time work with group clinic; new clinic building connected with voluntary hospital; university hospital affiliation; all members Board Diplomates; adequate clinical material; salary suitable for one unable to afford university appointment; young man or woman with 1 or 2 years internship preferred; interview desirable. Box 6406 D, % AMA. D

WANTED—INTERNS; JUNE 15, 1954; 150 BED GENERAL hospital *; rotating service; $150 per month plus maintenance. Apply: Chairman of Interns, St. Agnes Hospital, White Plains, New York. D

APPROVED PSYCHIATRIC RESIDENCY — AVAILABLE July 1, 1954; progressive private hospital + near Chicago; 2 years previous experience preferred; send biographic data. Dr. Samuel Liebman, North Shore Health Resort, Winnetka, Illinois. D

ANESTHESIOLOGY RESIDENTS — TWO; WANTED July 1st; fully approved 1 or 2 years; special interest in regional anesthesia; full teaching program; liberal salary and allowances. F. Paul Anders, MD, St. Catherine's Hospital,*+ 123 Dunkwick Ave., Brooklyn 6, New York. D

WANTED—RESIDENTS IN PEDIATRICS; TWO 1ST year and 2 2nd year; must be United States citizens, graduates of class A medical schools. Write: Department of Pediatrics, University of Nebraska Medical Center,*+ Omaha 5, Nebraska. D

RESIDENTS IN PSYCHIATRY—THREE YEAR APPROVED residencies with organized didactic curriculum and well-balanced clinical assignments; at VA Hospital,+ State Hospital,+ Menninger Hospital + and Outpatient Clinic, all located in Topeka; and affiliated with Topeka Institute for Psychoanalysis. Write: Menninger School of Psychiatry, Topeka, Kansas. D

GENERAL PRACTICE RESIDENCIES — AVAILABLE now in busy general hospital *+ in suburban area of Chicago; AMA approved; offers well rounded services for a young man who intends to enter general practice; 11,500 admissions, 6724 operations, 2137 deliveries in 1953; 165 beds and expanding; addition will be ready in fall with 3 new operating rooms; starting salary $2700 plus complete maintenance; low cost apartments available to married couples. Administrator, MacNeal Memorial Hospital, Berwyn, Illinois. D

ASSISTANT RESIDENCIES—IN INTERNAL MEDICINE, psychiatry, radiology, and obstetrics-gynecology; available for July 1, 1954; stipend commences $125 with maintenance for self. Airmail inquiries: % Medical Director, Queen's Hospital,*+ Honolulu, Hawaii. D

APPROVED RESIDENCIES—ONE OR TWO YEARS; in general practice, obstetrics-gynecology, radiology, plastic surgery, anesthesiology and pathology; 320 bed general hospital *+; weekly clinical, pathological and radiological conferences; obstetrical-gynecological clinic; broad general training under the supervision of qualified specialists; qualifications: graduate of approved medical school, and eligible for California licensure. Saint Francis Memorial Hospital, 900 Hyde Street, San Francisco, California. D

APPROVED TWO YEAR RESIDENCY IN OBSTETrics-gynecology; clinic cases referred to residents under supervision of qualified specialists; qualifications: must be graduate of approved medical school and be eligible for California licensure. Saint Francis Memorial Hospital,*+ 900 Hyde Street, San Francisco, California. D

GENERAL PRACTICE ROTATING RESIDENCY — outstanding fully approved program, available July 1st; $385; U. S. citizenship required; write for full details and application. Administrator, Tulare County General Hospital, Tulare, California. D

RESIDENCIES WANTED

WANTED — OPHTHALMOLOGY RESIDENCY OR equivalent; mature, single; basic courses ENT; year residency ENT, and 2 years eye; available July, possibly before; purpose experience and certification. Box 6541, % AMA.

WANTED—FOUR YEAR APPROVED GENERAL SURgical residency; stipend no object; completing rotating internship; single; age 27; upper ¼ medical school class; U.S. citizen and licensed; previous military service. Box 6524, % AMA.

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WANTED—IMMEDIATELY FOR ONE YEAR; GENeral practitioner; Miami, Florida; fully-equipped office; very lucrative non-seasonal practice; probability of future partnership. Box 6585 G, % AMA.

LOCUM TENENS WORK WANTED

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WANTED—LOCUM TENENS WORK; JULY, AUGUST, September; 1 year internal medicine residency completed; desire coal mine, general practice, or internal medicine; licensed Wisconsin and Illinois. Box 6475 H, % AMA.

WANTED — LOCUM TENENS; AVAILABLE JULY 15-September 15th; experienced general practitioner; awaiting orthopedic residency following release from Navy; desires industrial or general practice; licensed Illinois; 27; married; car. Box 6543 H, % AMA.

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YOUNG GENERAL PRACTITIONER—CATEGORY IV; DNB; married; rotating internship city teaching hospital; desires association with individual, group or industry; West Coast preferred; available July; references promptly answered. Box 6592 I, % AMA.

RADIOLOGIST — DESIRES TO ASSOCIATE WITH department in teaching hospital; Diplomate. Box 6604 I, % AMA.

(Continued on next page)

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GENERAL PRACTITIONER—32; VETERAN; FAMILY; graduate class A medical school, 1949; experienced general practice; primary interest industrial medicine and surgery; licensed Ohio, Virginia; desires information regarding location and/or association with individual or group. Box 6602 I, % AMA.

SURGEON—37; MARRIED; TWO CHILDREN; FOUR year residency, veterans hospital affiliated with university hospital, Mid-West; association with group or established surgeon preferred; early partnership desired. Box 6595 I, % AMA.

OPHTHALMOLOGIST—CERTIFIED; CATEGORY IV; Washington University and Barnes Hospital training completed 1951; National Board; also licensed California, Missouri, District of Columbia; association with group, individual, or take over; go anywhere. Box 6600 I, % AMA.

GENERAL SURGEON—BOARD ELIGIBLE; CHIEF resident university hospital; experienced surgical search; married; 31; family; category 5-A; desires association with university, group, or individual. Box 6588 I, % AMA.

OBSTETRICIAN-GYNECOLOGIST — BOARD ELIGIBLE; recent military discharge; Ohio and Pennsylvania licenses; desires association with group or specialist; prefers East or Southeast; available July, 1954. Box 6612 I, % AMA.

GENERAL SURGEON—32; BOARD CERTIFIED; UNIversity hospital trained, married; category IV; desires association with individual, group, or medical school; teaching experience in university after residency. Box 6583 I, % AMA.

CHEST PHYSICIAN — 36; MARRIED; GRADUATE grade A medical school; well-trained tuberculosis; desires position as staff physician or assistant medical director modern tuberculosis hospital Mid-West; licensed Michigan and Indiana. Box 6610 I, % AMA.

GENERAL SURGEON — DIPLOMATE; FACS; 45; family; healthy; excellent references; extensive experience general surgery and gynecology; desires association with individual surgeon or group. Box 6583 I, % AMA.

GENERAL SURGEON—31; MARRIED; GROUP IV; completing 3rd year Board approved surgical residency June, 1954; seeks association with surgeon or group. John B. Rank, MD, 3120 East Lincolnshire, Toledo, Ohio.

INTERNIST—BOARD ELIGIBLE; MAYO TRAINED; 32; with family; category IV; available July; desires permanent association with group or individual; prefer upper Mid-West or Northwest. Box 6586 I, % AMA.

OTOLARYNGOLOGIST — UNIVERSITY TRAINED; F.I.C.S.; certified; immediately available; family; desires practice; privately, association; group, clinic; endoscopy, rhinoplasty, allergy; California reciprocity license. Box 6589 I, % AMA.

GENERAL SURGEON — COMPLETING FOUR YEAR surgery residency university hospital in June; available for partnership or group association in Midwest; Army service completed; age 32; family. Box 6611 I, % AMA.

SENIOR MEDICAL STUDENT AND WIFE—DESIRE interesting and profitable summer employment; will consider camp; well-trained in laboratory procedure. Reply: 67 C Stadium Place, New Orleans, Louisiana.

SURGEON—32; BOARD ELIGIBLE; AVAILABLE JULY 1st; category IV; married; desires association with group or individual; will do some general work; anywhere, prefer California. Box 6599 I, % AMA.

PEDIATRICIAN—FINISHING RESIDENCY UNIVERsity hospital; family; desires affiliation group, clinic or partnership; San Francisco Bay area; available September 1st. Box 6591 I, % AMA.

ORTHOPEDIST — 35; DIPLOMATE; MD NORTHwestern; family; category IV; MS (orthopedic surgery) desires location or association for practice; West or Mid-West. Box 6587 I, % AMA.

INTERNIST—BOARD ELIGIBLE; AGE 31; FAMILY; trained at large mid-western clinic hospital; would like association with individual or group, July, 1954. Box 6549 I, % AMA.

SURGEON—GENERAL AND THORACIC; 45; BOARD eligible; former teacher at medical school; licensed New York, Ohio; desires institutional work, association, group, clinic or private general practice. Box 6501 I, % AMA.

OPHTHALMOLOGIST — UNIVERSITY TRAINED; family; category IV; consider association with ophthalmologist, otolaryngologist, group or purchase practice; small community preferred; Virginia and Florida license; early availability. Box 6272 I, % AMA.

INTERNIST — 32; CATEGORY IV; FAMILY; COMpleting 3rd year large charity hospital; desires association with group or individual; west coast or mountain states preferred; available August. Box 6561 I, % AMA.

GENERAL SURGEON—31; BOARD ELIGIBLE; FIVE years intensive surgical training; married; family; National Boards, Ohio license; desires association with group or established surgeon. Box 6320 I, % AMA.

PEDIATRICIAN—CERTIFIED; 33; MARRIED; DEsires Florida position; clinical or other; while waiting Florida state licensure examination; consider temporary or permanent location. Box 6113 I, % AMA.

GENERAL PRACTITIONER—29; LICENSED; FAMILY; 2 years experience; applicant cooperative, amiable; desires to relocate with congenial group or individual; ambitious; desires to alternate for time off; prefer South or West. Box 6540 I, % AMA.

SURGEON—34; DIPLOMATE, CATEGORY IV; WELLtrained in general and thoracic surgery; desires position with group or partnership, preferably college town; available May 1954. Box 6550 I, % AMA.

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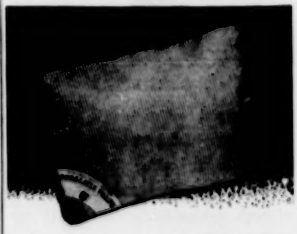

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V 154
1954

BOOKS RECEIVED

Books received by THE JOURNAL *are acknowledged in this column. Selections will be made for more extensive review in the interests of* THE JOURNAL *readers as space permits. Books listed in this department are not available for lending or sale through the American Medical Association.*

Textbook of Obstetrics and Obstetric Nursing. By Mae M. Bookmiller, R.N., Assistant Professor of Clinical Nursing, New York University College of Medicine, New York, and George Loveridge Bowen, A.B., M.D., Clinical Professor of Obstetrics and Gynecology, New York University College of Medicine. With original drawings by Frank Netter, B.S., M.D. With section on newborn by Harry Bakwin, B.S., M.D., Professor of Clinical Pediatrics, New York University College of Medicine. Second edition. Cloth. $5.50. Pp. 768, with 346 illustrations. W. B. Saunders Company, 218 W. Washington Sq., Philadelphia 5; W. B. Saunders Company, Ltd., 7 Grape St., Shaftesbury Ave., London, W.C.2, 1954.

Pneumonia. By Hobart A. Reimann, M.D., Visiting Professor of Medicine, American University of Beirut, Lebanon. Publication number 160, American Lecture Series, monograph in Bannerstone Division of American Lectures in Chest Diseases, edited by J. Arthur Myers, M.D., Ph.D., Professor of Medicine and Public Health, University of Minnesota Medical and Graduate Schools, Minneapolis. Cloth. $5.75. Pp. 236, with 17 illustrations. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto 2B, 1954.

Experimental Surgery Including Surgical Physiology. By J. Markowitz, M.B.E., M.B., Ph.D., Associate Professor of Physiology, University of Toronto, Toronto, Canada. In collaboration with J. Archibald, D.V.M., M.V.Sc., Professor and Head of Division of Small Animal Medicine and Surgery, Ontario Veterinary College, Guelph, and H. G. Downie, D.V.M., M.S., M.V.Sc., Assistant Professor of Physiology, Ontario Veterinary College. Third edition. Cloth. $10. Pp. 851, with 554 illustrations. Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore 2, 1954.

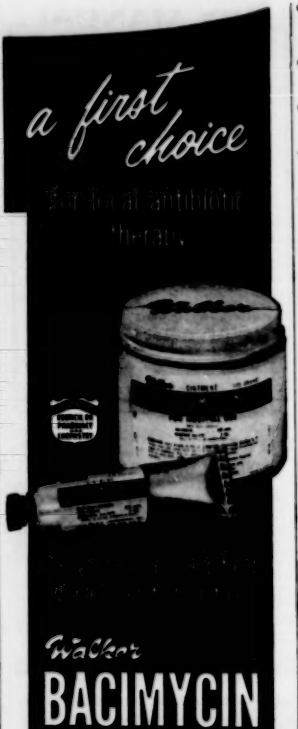
The Hepatic Circulation and Portal Hypertension. By Charles G. Child, III, M.D., Professor of Surgery, Tufts College Medical School, Boston. In collaboration with Ward D. O'Sullivan, M.D., and others. From Department of Surgery and Laboratory of Surgical Research of New York Hospital—Cornell Medical Center. Cloth. $12. Pp. 444, with 132 illustrations. W. B. Saunders Company, 218 W. Washington Sq., Philadelphia 5; W. B. Saunders Company, Ltd., 7 Grape St., Shaftesbury Ave., London, W.C.2, 1954.

Oral and Facial Deformity. By C. Kerr McNeil, Ph.D., L.D.S., Examiner in Dental Prosthetics and Dental Mechanics, University of Glasgow, Glasgow, Scotland. With foreword by Professor James Aitchison, Director of Dental Education, University of Glasgow. Cloth. $5. Pp. 127, with 191 illustrations. Pitman Publishing Corporation, 2-6 West 45th St., New York 36; Sir Isaac Pitman & Sons, Ltd., Pitman House, 39-41 Parker St., Kingsway, London, W.C.2; 381-383 Church St., Toronto, 1954.

Mitchell's Pediatrics and Pediatric Nursing. By Robert A. Lyon, M.D., Associate Professor of Pediatrics, University of Cincinnati, Cincinnati, Ohio, and Elgie M. Wallinger, R.N., B.S., M.A., Director of Nursing, Columbus Children's Hospital, Columbus, Ohio. Fourth edition. Cloth. $4.50. Pp. 547, with 91 illustrations. W. B. Saunders Company, 218 W. Washington Sq., Philadelphia 5; W. B. Saunders Company, Ltd., 7 Grape St., Shaftesbury Ave., London, W.C.2, 1954.

Pamietnik XXXVI zjazdu chirurgów polskich: XX zjazdu towarzystwa chirurgów polskich we Wrocławiu 21, 22 i 23. IV, 1952 r. Przewodniczacy: Prof. Dr. Med. Tadeusz Butkiewicz. Redaktor: Prof. Dr. Med. Kornel Michejda. [Transactions of Thirty-Sixth Convention of Polish Surgeons, Twentieth Convention of Society of Polish Surgeons in Wrocław, April 21-23, 1952.] Paper. Pp. 470, with illustrations. Państwowy Zakład Wydawnictw Lekarskich, Warszawa, 1953.

(Continued on next page)



GENERAL PRACTITIONER—27; MARRIED; ROTATING internship and year OB-GYN; completing military service; desires association with individual or group in small town, Maryland license; available July 1. Box 6374 I, % AMA.

GENERAL SURGEON—BOARD ELIGIBLE; 31; FAMILY; completing 2 years surgery large Army hospital; 1½ years with Diplomate American Board Orthopedics; associate individual or group, East or Mid-West; available October 1954. Box 6373 I, % AMA.

CARDIOLOGIST—49; FAMILY; BOARD DIPLOMATE C-V disease; well-established large city 15 years; desires to locate in smaller university city where he is needed; personal reasons. Box 6369 I, % AMA.

OBSTETRICIAN-GYNECOLOGIST—AGE 30; FAMILY; trained large Charity hospital; Board eligible October; Category IV; general practice experience; prefer Southwest or West. Box 6366 I, % AMA.

CLINICAL PATHOLOGIST—39; EIGHT YEARS UNIversity teaching experience; desires position exclusively in clinical pathology without night calls, in Southern half of country; category I. Box 6537 I, % AMA.

RADIOLOGIST — 15 YEARS IN TUMOR CLINIC; extensive radium experience; isotope training (Oak Ridge); several publications; desires radiology department, but prefers radiation therapy in tumor clinic. Box 6257 I, % AMA.

RADIOLOGIST—COMPLETING RESIDENCY IN JUNE, including isotopes; age 32; category I; desires association with hospital, radiologist or group; prefers Mid-West, licensed Wisconsin and California. Box 6437 I, % AMA.

INTERNIST—THREE YEARS RESIDENCY, UNIVERSity affiliated hospital; completing military service July 1, 1954; desires association, individual or group; Gulf Coast region. Box 6507 I, % AMA.

UROLOGIST—BOARD ELIGIBLE; 29; SINGLE; DEsires association with group or established urologist; military obligations fulfilled as urologist; available July. Box 6514 I, % AMA.

GENERAL PRACTITIONER—YOUNG; FAMILY; TWO years service; 2 years general residency; well-qualified obstetrics; some surgery; familiar with tuberculosis; desires association individual or small group; National Boards; available June. Box 6401 I, % AMA.

INTERNIST — FACP; EMPHASIS IN CHEST DISeases; well-qualified; highly recommended; on temporary basis 3 to 6 months, possibly permanent if mutually agreeable. Box 6421 I, % AMA.

OBSTETRICIAN-GYNECOLOGIST—BOARD ELIGIBLE; 30; university and charity hospital trained; general practice experience; married; category 4; desires association with group or individual; West Coast preferred; excellent references. Box 6472 I, % AMA.

INTERNIST—CERTIFIED; UNIVERSITY HOSPITAL trained; 35; family; category IV; desires permanent position with group; experienced clinical, industrial programs and administration; interview required; full details 1st letter. Box 6469 I, % AMA.

EYE, EAR, NOSE AND THROAT — UNIVERSITY trained; certified otolaryngology; FAAOO, FACS; completing military service soon; desires private practice opportunity or association with established EENT practice. Box 6465 I, % AMA.

INTERNIST — AGE 32; CATEGORY IV; PASSED board part I; desires opportunity in group, association, college or industry; would do limited general practice; extensive licensure including Florida. Box 6476 I, % AMA.

GENERAL SURGEON—35; FIVE YEARS SURGICAL training; desires association with group or established surgeon; southeastern states preferred. Box 6453 I, % AMA.

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ORTHOPEDIC SURGEON—30; DIPLOMATE; TRAINed university hospital; finishing 3 years as assistant chief, orthopedics, USAMC; seeks association with qualified orthopedic surgeon preferably on Westcoast. Woodward Medical Bureau, 185 North Wabash, Chicago. 1

SURGEON — M.D., HARVARD; TWO YEAR RESIdency, general surgery, university hospital in Midwest; now completing 4 years' training, Eastern teaching hospital. Medical Bureau, Burneice Larson, Director, Palmolive Building, Chicago. 1

GENERAL SURGEON — 31; GRADUATED NORTHwestern Medical; M.S. anatomy; 3 years, fellowship, surgery, Mayo Foundation; passed part I; several years, USNMC; seeks associate, group, preferably with teaching opportunity. Woodward Medical Bureau, 185 North Wabash, Chicago. 1

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(Continued on page 71)

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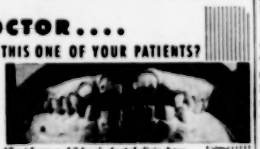

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(Books Received Continued)

Concepts of Radiological Health. Part I: Radiation Production and Absorption. Part II: Biologic Effects of Radiation Absorption. By Samuel C. Ingraham, II, James G. Terrill, Jr., and Dade W. Moeller. U. S. Department of Health, Education, and Welfare, Public Health Service Radiological Health Branch, Public Health Service publication no. 336. Paper. 45 cents. Pp. 48, with illustrations. Superintendent of Documents, Govern. Print. Off., Washington 25, D. C., 1953.

Die Bedeutung des Blutchemismus: Besonders in Beziehung zu Tumorbildung und Tumorabbau. Von Professor Dr. Ernst Leupold, Direktor des pathologischen Instituts der Universität Köln. II. Teil, Der Zell- und Gewebsstoffwechsel als innere Krankheitsbedingung. Cloth. $11.40; 48 marks. Pp. 207, with 102 illustrations. Georg Thieme, Diemershaldenstrasse 47, (14a) Stuttgart-O; (Intercontinental Medical Book Corporation, New York 16), 1954.

Das geburtshilfliche Gutachten im Vaterschaftsprozess: Darstellung der Grundlagen, der Technik und der Stellung im Prozess für Mediziner, Juristen und Beamte der Jugendämter. Von Prof. Dr. Med. Kurt Podleschka, Oberarzt der Universitäts-Frauenklinik Erlangen. Cloth. $7.85; 33 marks. Pp. 237, with 64 illustrations. Georg Thieme, Diemershaldenstrasse 47, (14a) Stuttgart-O; (Intercontinental Medical Book Corporation, New York 16), 1954.

Verhandlungen der deutschen Gesellschaft für Verdauungs- und Stoffwechselkrankheiten: XVI. Tagung in Essen und Bad Neuenahr 24.-27. September 1952. Thema: Endokrine und exokrine Krankheiten des Pankreas. Im Auftrage des Vorstandes herausgegeben vom ständigen Schriftführer der Gesellschaft Prof. Dr. H. W. Bansi, Hamburg. Paper. 15 marks. Pp. 260, with 114 illustrations. Hansisches Verlagskontor, Gartenstr. 24, Lübeck, 1953.

Aids to Diagnosis and Treatment of Diseases of Children. By F. M. B. Allen, M.D., F.R.C.P., Nuffield Professor of Child Health, Queen's University, Belfast, and O. D. Fisher, M.D., M.R.C.P., D.C.H. Ninth edition. Cloth. $2. Pp. 300. Baillière, Tindall & Cox, 7 & 8 Henrietta St., Covent Garden, London, W.C.2; (American agent —Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore 2), 1953.

Ulcerative Colitis and Its Surgical Treatment. By Bryan N. Brooke, M.Chir., F.R.C.S. Foreword by F. A. R. Stammers, C.B.E., T.D., B.Sc., Professor of Surgery, University of Birmingham, Birmingham, England. Cloth. $7.50. Pp. 147, with 89 illustrations. Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore 2; E. & S. Livingtone, Ltd., 16 and 17 Teviot Pl., Edinburgh 1, 1954.

Viruserkrankungen des Menschen: Ein Lehrbuch der Klinik, Epidemiologie und Ätiologie der menschlichen Viroses. Von Dr. Med. W. D. Germer, Oberarzt der medizin. Klinik und Dozent an der Universität Tübingen. Cloth. $7.15; 30 marks. Pp. 190, with 47 illustrations. Georg Thieme, Diemershaldenstrasse 47, (14a) Stuttgart-O; (Intercontinental Medical Book Corporation, New York 16), 1954.

The Roentgenologist in Court. By Samuel Wright Donaldson, M.D., F.A.C.R., Roentgenologist, St. Joseph Mercy Hospital, Ann Arbor, Michigan. Second edition. Cloth. $7.75. Pp. 348. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, 49 Broad St., Oxford, England; Ryerson Press, 299 Queen St., W., Toronto 2B, 1954.

Third International Congress of Electroencephalography and Clinical Neurophysiology, August 17-22, 1953, Radcliffe College, Cambridge, Massachusetts, U. S. A. Abstracts of panels and short communications. Supplement number III of EEG Journal. Paper. Pp. 94, with illustrations. Robert S. Schwab, M.D., Secretary General, Massachusetts General Hospital, Boston 14, [n.d.].

(Continued on page 72)

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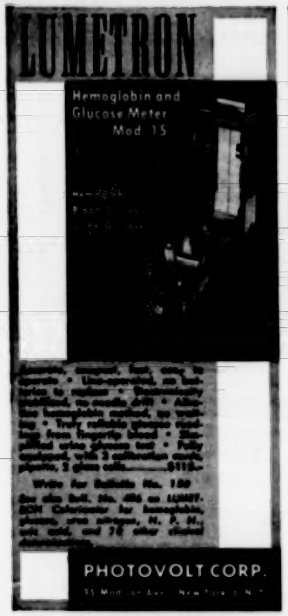

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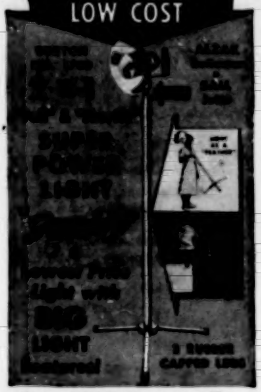

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Desert Research. Proceedings, international symposium held in Jerusalem, May 7-14, 1952, sponsored by Research Council of Israel and United Nations Educational, Scientific, and Cultural Organization. Research Council of Israel special publication no. 2. Paper. $6. Pp. 641, with illustrations. Jerusalem; [Interscience Publishers, Inc., 250 Fifth Ave., New York 1], 1953.

Metabolism of Steroid Hormones. By Ralph I. Dorfman, Ph.D., Associate Director of Laboratories, Worcester Foundation for Experimental Biology, Shrewsbury, Mass., and Frank Ungar, Ph.D., Staff Member, Worcester Foundation for Experimental Biology. Cloth. $4. Pp. 170, with 53 illustrations. Burgess Publishing Company, 426-428 S. Sixth St., Minneapolis 15, 1953.

Electrocardiographie clinique. Par J. Lenègre, professeur à la Faculté de médecine de Paris, G. Carcouso, chef du laboratoire d'electrocardiographie et H. Chevalier, ancien chef de clinique à la Faculté de médecine de Paris. Préface du Pr Ch. Laubry. Cloth. 7600 francs. Pp. 810, with 341 illustrations. Masson & Cie, 120 boulevard Saint-Germain, Paris, 6e, 1954.

The Thyroid: A Physiological, Pathological, Clinical and Surgical Study. By T. Levitt, M.A., F.R.C.S., F.R.C.S.I., Hunterian Professor of Royal College of Surgeons of England. Cloth. $20. Pp. 606, with 502 illustrations. Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore 2; E. & S. Livingstone, Ltd., 16 and 17 Teviot Pl., Edinburgh 1, 1954.

Physics for Medical Students. By J. S. Rogers, B.A., D.Sc., F.Inst.P., Dean of Graduate Studies, University of Melbourne, Melbourne, Australia. Third edition. Cloth. $5.50. Pp. 405, with illustrations. Cambridge University Press, 32 E. 57th St., New York 22; Bentley House, 200 Euston Rd., London, N.W.1; Melbourne University Press, Carlton, N.3, Victoria, 1953.

Clinical Orthoptic Procedure: A Reference Book on Clinical Methods of Orthoptics. By William Smith, O.D., Associate Instructor in Optometry and Instructor of Orthoptics and Visual Training, Massachusetts College of Optometry, Boston. Second edition. Cloth. $10. Pp. 524, with 91 illustrations. C. V. Mosby Company, 3207 Washington Blvd., St. Louis 3, 1954.

Aids to Inorganic Chemistry. By R. G. Austin, B.Sc., F.R.I.C., Associate of University College, Southampton. Second edition. Cloth. $2.25. Pp. 469, with 22 illustrations. Baillière, Tindall & Cox, 7-8 Henrietta St., Covent Garden, London, W.C.2; (American agent—Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore 2), 1953.

Cold Injury: Transactions of the Second Conference, November 20 and 21, 1952, New York, N. Y. Edited by M. Irené Ferrer, Assistant Professor of Clinical Medicine, Columbia University College of Physicians and Surgeons, New York. Cloth. $4. Pp. 242, with 43 illustrations. Josiah Macy, Jr., Foundation, 16 W. 46th St., New York 36, 1954.

Symptomes cérébraux et suites cérébrales éloignées des maladies à exanthème de l'enfance (rougeole, rubeole, scarlatine, varicelle) et de la coqueluche ainsi que les malformations congénitales dues à ces maladies. Par Thérèse Forel. Paper. 5 Swiss francs. Pp. 96. Éditions Médecine et hygiène, 15, boul. des Philosophes, Geneva, 1953.

Thoracic Surgery. By Richard H. Sweet, M.D., Associate Clinical Professor of Surgery, Harvard University Medical School, Boston. Second edition. Cloth. $10. Pp. 381, with 159 illustrations by Jorge Rodriguez Arroyo, M.D. W. B. Saunders Company, 218 W. Washington St., Philadelphia 5; 7 Grape St., Shaftesbury Ave., London, W.C.2, 1954.

Child Health and the State. By Alan Moncrieff, C.B.E., M.D., F.R.C.P., Nuffield Professor of Child Health, University of London. London School of Hygiene and Tropical Medicine, Newsholme lectures 1953. Cloth. $1.50. Pp. 48. Oxford University Press, 114 Fifth Ave., New York 11; Amen House, Warwick Sq., London, E.C.4, 1953.

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Statistical Summary of Water Supply and Treatment Practices in the United States. By John R. Thoman. U. S. Department of Health, Education, and Welfare, Public Health Service, Public Health Service publication no. 301. Paper. 20 cents. Pp. 53. Superintendent of Documents, Govern. Print. Off., Washington 25, D. C., 1953.

Pamietnik XXIII zjazdu otolaryngologów polskich, Łódź 18-20. X. 1952 r. Pod redakcja: Doc. dr T. Byftrzanowskiej. [Transactions of Twenty-Second Convention of Polish Otolaryngologists, Lodz, Oct. 18-20, 1952.] Cloth. Pp. 136, with illustrations. Państwowy Zakład Wydawnictw Lekarskich, Warszawa, 1953.

Die Mund- und Rachenkrankheiten; Klinik und Therapie: Ein Leitfaden für Ärzte und Studierende. Von Prof. Dr. C. B. Grindel. Cloth. $6.90; 29 marks. Pp. 140, with 42 illustrations. Georg Thieme, Diemershaldenstrasse 47 (14a) Stuttgart-O; (Intercontinental Medical Book Corporation, New York 16), 1954.

Manuel pratique de vaccination par le B.C.G. Par R. Mande, médecin des hôpitaux de Paris. Préface du profeseeur Robert Debré. Centre international de l'enfance, travaux et documents, VI. Paper. 950 francs. Pp. 200, with 17 illustrations. Masson & Cie, 120 boulevard Saint-Germain, Paris, 6e, 1954.

XIV zjazd polskiego towarzystwa dermatologicznego we Wrocławiu w dniach 25, 26 i 27 września 1953 r. [Fourteenth Convention of Polish Dermatologic Society in Wrocław, September 25-27, 1952.] Cloth. Pp. 132, with illustrations. Państwowy Zakład Wydawnictw Lekarskich, Warszawa, 1953.

Penicilinoterapia de la otitis cardiovascular: Observaciones clínicas inmediatas y a largo plazo, resultados que se basan en estudios hidrogeohigéreos. Por Aurelio Peralta V. [Thesis, M.D., Universidad nacional mayor de San Marcos.] Paper. Pp. 85, with 18 illustrations. Lima, Peru, 1953.

Studies on the Electrophysiology and the Metabolism of the Retina. By Werner K. Noell, M.D., Department of Neuropsychiatry. Project Number 21-1201-0004, report number 1. Paper. Pp. 122, with 68 illustrations. Air University, USAF School of Aviation Medicine, Randolph Field, Texas, 1953.

Report on the 10th Congress of Scandinavian Psychiatrists in Stockholm, Sweden, 1952. Edited by Curt Åmark. Issued by Swedish Psychiatric Society. Acta psychiat. et neurol. scandinav. supp. 80. Paper. Pp. 247, with illustrations. Ejnar Munksgaards Forlag, Nørregade 6, Copenhagen, K, 1953.

Affections de la chevelure et du cuir chevelu: Anatomie, physiologie, pathologie, hygiène et thérapeutique. Publié sous la direction de A. Desaux. Par A. Boutelier, et al. Cloth. 5.650 francs. Pp. 780, with 298 illustrations. Masson & Cie, 120 boulevard Saint-Germain, Paris, 6e, 1953.

Die objektive Stereoskopie an Röntgenbildern: Eine diagnostische Methode. Von Prof. Dr. A. Hasselwander. Cloth. $6.40; 27 marks. Pp. 187, with 125 illustrations. Georg Thieme, Diemershaldenstrasse 47 (14a) Stuttgart-O; (Intercontinental Medical Book Corporation, New York 16), 1954.

The Physiology of Man. By L. L. Langley, M.A., Ph.D., and E. Cheraskin, M.D., D.M.D., University of Alabama, Birmingham. Cloth. $5.50. Pp. 609, with 180 illustrations. McGraw-Hill Book Company, Inc., 330 W. 42nd St., New York 36; 95 Farringdon St., London, E.C.4, 1954.

Costituzione individuale e sviluppo corporeo (genesi e destino). Per Mario Barbàra. Collana di monografie dell'Archivio "E. Maragliano" di patologia e clinica n. 9. Prefazione del Prof. Enrico Greppi. Paper. Pp. 133, with 10 illustrations. Tip. A. Pesce, Genoa, 1953.

Acute Anuria: A Study Based on Renal Function Tests and Aspiration Biopsy of the Kidney. By Claus Brun. [Thesis, M.D., University of Copenhagen, 1953]. Paper. 30 kroner. Pp. 215, with 62 illustrations. Ejnar Munksgaards Forlag, Nørregade 6, Copenhagen, K, 1954.

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La leishmaniosis tegumentaria mexicana y algunos datos médico-estadísticos de Escuenca, Camp. Por Francisco Biagi Filizola. [Thesis, M.D., Universidad nacional autónoma de México.] Paper. Pp. 119, with 26 illustrations. Mexico, D.F., 1953.

Journées médicales des hôpitaux de Lille, organisées par l'Association des internes et anciens internes des hôpitaux, les 21 et 22 avril 1953. Paper. Pp. 207, with illustrations. Imprimerie Morel & Corduant, 11, rue des Bouchers, Lille, 1953.

Die zentralnervösen Wirkungen von Heilmitteln. Von E. Rothlin. Boards. 60 cents; 2.40 marks. Pp. 39, with 7 illustrations. Georg Thieme, Diemershaldenstrasse 47, (14a) Stuttgart-O; (Intercontinental Medical Book Corporation, New York 16), 1954.

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Hospital Care of Maternity Patients and Their Newborn Infants: Standards Recommended. Division of Maternal and Child Health, Texas State Department of Health. Paper. Pp. 76. Texas State Department of Health, Austin 1, 1953.

The Dawn of the Post-Modern Era: Dimensions of Human Life in the Last Half of the Twentieth Century. By Elwyn Judson Trueblood. Cloth. $3.75. Pp. 198. Philosophical Library, Inc., 15 E. 40th St., New York 16, 1954.

How to Be a Woman. By Lawrence K. and Mary Frank. Cloth. $2.75. Pp. 144, with illustrations. Bobbs-Merrill Company, Inc., 724 N. Meridian St., Indianapolis 7; 468 Fourth Ave., New York 16, 1954.

Three Men: An Experiment in the Biography of Emotions. By Jean Evans. Introduction by Gordon W. Allport. Cloth. $3.75. Pp. 297. Alfred A. Knopf, Inc., 501 Madison Ave., New York 22, 1954.

Cold Spring Harbor Symposia on Quantitative Biology. Volume XVIII: Viruses. Cloth. $8. Pp. 301, with 112 illustrations. Biological Laboratory, Cold Spring Harbor, L. I., New York, 1953.

Power of Words. By Stuart Chase. In collaboration with Marian Tyler Chase. Cloth. $3.95. Pp. 308. Harcourt, Brace and Company, Inc., 383 Madison Ave., New York 17, 1954.

The Golf Secret. By H. A. Murray, M.D. Preface by Algy Easterbrook. Cloth. $2.50. Pp. 142, with 14 illustrations. Emerson Books, Inc., 251 W. 19th St., New York 11, 1954.

The Deluge: A Novel. By Leonardo da Vinci. Edited by Robert Payne. Cloth. $3. Pp. 99, with frontispiece by author. Twayne Publishers, 34 E. 23rd St., New York 10, 1954.

La chirurgia dell'ipertensione portale. Di Antonio Severi e Mario Pelloja. Paper. 1900 lire. Pp. 188, with 39 illustrations. Edizioni "Omnia medica," Pisa, 1953.

The Hand-Produced Book. By David Diringer, D.Litt., M.A. Cloth. $15. Pp. 603, with illustrations. Philosophical Library, Inc., 15 E. 40th St., New York 16, 1953.

Primeiros ensaios de radioterapia microlocalizada da hipófise e do hipotálamo. Pelo Prof. Dr. Carlos Santos. Paper. Pp. 62, with 20 illustrations. Lisbon, 1953.

Symbolic Wounds: Puberty Rites and the Envious Male. By Bruno Bettelheim. Cloth. $4.75. Pp. 286, with frontispiece. Free Press, Glencoe, Ill., 1954.

Traité de cytologie sanguine. Par Marcel Bessis. Cloth. Pp. 588, with 405 illustrations. Masson & Cie, 120 boulevard Saint-Germain, Paris, 6e, 1954.

The Allergic Child. By Harry Swartz, M.D. Cloth. $3.95. Pp. 297. Coward-McCann, Inc., 210 Madison Ave., New York 16, 1954.

The Jealous Child. By Edward Podolsky, M.D. Cloth. $3.75. Pp. 147. Philosophical Library, Inc., 15 E. 40th St., New York 16, 1954.

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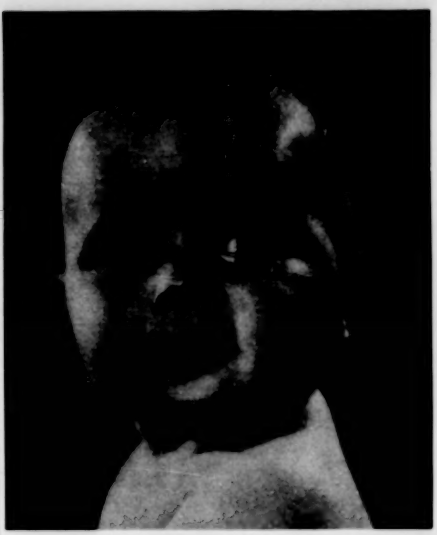

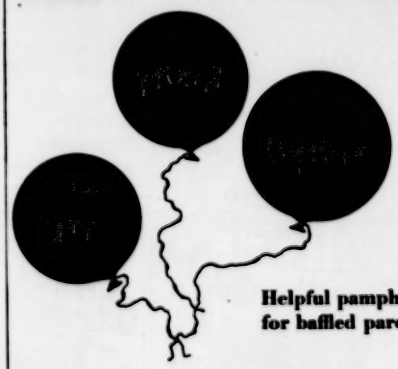

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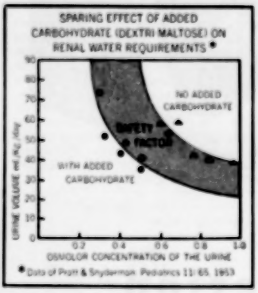

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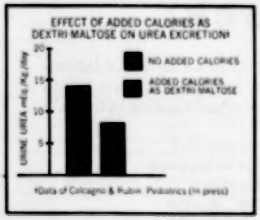

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References:

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